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The Impact of Institutional Diversity on Social Cohesion and Economic Productivity and Well-Being: A Macro-Level Analysis

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THE IMPACT OF INSTITUTIONAL DIVERSITY ON SOCIAL COHESION AND ECONOMIC PRODUCTIVITY AND WELL-BEING: A MACRO-LEVEL ANALYSIS

By

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Issues of racial and ethnic separation and inequality are evidenced in both past and current patterns of segregation within and across major U.S. social institutions. In education, for example, between 1980 and 2010, the percentage of Black and Latino students enrolled in 90-100% minority schools increased from 33% and 29%, to 38% and 43%, respectively (Orfield, Kuscera, and Sigel-Hawley 2012). In housing, while most major U.S. cities have experienced a decline in Black-White residential segregation over the past forty years, the average concentration of Blacks in urban neighborhoods exceeds fifty percent; in suburban areas, the typical Black resident lives in a neighborhood where the local population of Blacks exceeds the metropolitan area proportion by almost 30 percentage points (Glaeser and Vigdor 2012). The persistence of segregated schools and neighborhoods limits the opportunities for different race/ethnic groups to interact, confer unequal rewards and resources (Moody 2001; Quillian and Campbell 2003; Kurlaender and Yun 2005), and perpetuates a cycle of disadvantage, inequality, and social tension between race-ethnic groups, undermining the potential for minority social mobility in a diverse society (Braddock 1980; Braddock and McPartland 1989; Braddock and Gonzalez 2010; Stearns 2010). We have considerable research evidence on the benefits of exposure to diversity in regard to preparing *individuals* for living in a multiethnic

democratic society. However, our knowledge of the impact of diversity on *communities* or on *society at large* is limited. This is, in part, a result of an imbalanced focus in most previous studies that failed to adequately consider social contexts writ large, rather focusing on individual-level outcomes. To expand the knowledge base in this area, I examine the impact of diversity in institutional contexts, or meso-level diversity, on key community-level outcomes. Following the logic of previous theory and empirical research, my dissertation examines three broad research questions: (1) Does meso (institutional) diversity, net of macro (metropolitan) diversity affect community social cohesion and economic productivity?; (2) Is the effect of macro (metropolitan) diversity on community social cohesion and economic productivity mediated by meso (institutional) diversity; (3) Is the effect of macro (metropolitan) diversity on community social cohesion and economic productivity conditional on meso (institutional) diversity or economic inequality?

I utilize a unique data set to analyze how metropolitan diversity, and the institutional contexts (neighborhoods and schools) of diversity, impacts social cohesion and economic productivity and well-being across a broad sample of U.S. metropolitan areas. The first focal independent variable, metropolitan- or macro-level diversity, is measured through a *multi-group diversity score*, and describes the proportion of minority race/ethnic groups within metropolitan areas. The second focal independent variable, institutional or meso-level diversity, is analyzed as a mediating and moderating factor of the relationship between macro-level diversity and the dependent variables. Meso-level diversity is measured by a *multi-group entropy index,* describing how groups are distributed across neighborhoods or schools within the larger metropolitan area. The first

focal dependent variable, social cohesion, reflects individuals' attitudes and behaviors toward other racial groups and their attitudes toward their community. Social cohesion is measured through several indicators, including attitudinal or social psychological factors, such as interracial trust, social trust, and sense of community belonging, and behavioral indicators, such as racial bridging ties through friendships and group involvement. I measure economic productivity through per capita Gross Domestic Product (GDP). Economic well-being is operationalized using a measure of the skill gap in the labor market, and the education gap index, which describes the gap between a metropolitan area's demand for educated workers and the supply of educated workers in the same area. The analysis proceeds in two main steps: a mediation analysis will assess how meso-level diversity may help explain the relationship between macro-level diversity and the dependent variables. The two-part moderation analysis will assess (1) how the relationship between diversity and the dependent variables may be contingent upon community socioeconomic status, and (2) how the impact of macro-level diversity on the dependent variables is conditioned by the relative level of meso-diversity within communities. Results from OLS regression analysis indicate that the impact of macro-level diversity on attitudinal dimensions of social cohesion are mainly negative, but this effect is counterweighed by the consistent *positive* impact of meso-level diversity. For racial bridging ties, the behavioral dimensions of social cohesion, macro- and meso-level diversity have a strong positive effect. Macro-level diversity increases overall economic productivity, but decreases economic well-being, yet meso-level diversity, in part, compensates for the negative impact on economic well-being by decreasing the skill gap and education gap. The mediating role that meso-diversity plays in the relationship

between macro-level diversity and the dependent variables seems to be significantly conditioned by the level of economic inequality of communities, to the extent that the significance of the negative impact of macro-level diversity is nearly eliminated for racial trust and economic well-being. Among communities with greater meso-level diversity, the negative impact of macro-level diversity on the attitudinal dimensions is lessened (though results for racial trust are mixed) and strengthened for behavioral dimensions of social cohesion. With the exception of the education gap index, the relationship between macro-diversity and economic outcomes is also shaped by communities' meso-level diversity: within high meso-level diversity communities, the negative impact of macro-diversity on the skill gap is considerably weaker, though the positive impact of macro-diversity on per capita income is also weaker. Overall, this study makes a contribution to diversity effects research by documenting the consistent *positive* impact of K-12 school and neighborhood diversity on the social and economic well-being of U.S. communities. Directions for future research and policy implications are discussed.

To my mother, Britt,
whose passion for an equal education for all kids has inspired my own

and to my father, George,
who always taught me to go for it, full throttle.

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CHAPTER 1

INTRODUCTION

STATEMENT OF THE PROBLEM

As a nation of immigrants, the United States has a long history of ethnic diversity. However, the nation's race-ethnic diversity has also steadily increased over the past several decades. From 2000 to 2010, minority race/ethnic groups accounted for over half of the growth of the U.S. population (Humes, Jones and Ramirez 2011). In fact, demographic trends project that the U.S. will become a majority-minority society in the near future (Humes, Jones and Ramirez 2011). Orfield, Kuscera and Siegel-Hawley (2012) write that since the European settlement period, the United States has been "…characterized by a growing multiracial population which faces serious issues of separation and inequality" (p. 2), and recent trends document the same.

Issues of separation and inequality are evidenced in both recent and current patterns of racial and ethnic segregation within and across major social institutions. In education, for example, between 1980 and 2010, the percentage of Black and Latino students enrolled in 90-100% minority schools increased from 33% and 29%, to 38% and 43%, respectively (Orfield et al. 2012). In housing, while most major U.S. cities have experienced a decline in Black-White residential segregation over the past forty years, the average concentration of Blacks in urban neighborhoods exceeds fifty percent; in suburban areas, the typical Black resident lives in a neighborhood "where the share of the population that is Black exceeds the metropolitan average by roughly 30 percentage points" (Glaeser and Vigdor 2012:4).

Segregated schools and neighborhoods limit opportunities for different race/ethnic groups to interact, and confer inequitable rewards and resources (Moody 2001; Quillian and Campbell 2003; Kurlaender and Yun 2005), and perpetuates a cycle of disadvantage, inequality, and social tension between race-ethnic groups, undermining the potential for minority social mobility and structural assimilation in a diverse society (Braddock 1980; Braddock and McPartland 1989; Braddock and Gonzalez 2010; Stearns 2010). Increasing racial and ethnic diversity coupled with growing segregation across social institutions may pose crucial challenges for the nation's stability and well-being. We have considerable research evidence on the benefits of exposure to diversity in regard to preparing *individuals* for living in a multiethnic democratic society. However, our knowledge of the impact of diversity on *communities* or on *society at large* is limited. This is, in part, a result of an imbalanced focus in most previous studies that fails to adequately examine the effects of social contexts, rather focusing almost exclusively on individual-level outcomes. To expand the knowledge base on contextual effects, I have constructed a unique, macro-level data set to analyze how metropolitan diversity, and the institutional context (neighborhoods and schools) of diversity, impacts social cohesion and economic productivity and economic well-being across a broad and diverse sample of U.S. communities. This dissertation examines three broad research questions: (1) Does meso (institutional) diversity, net of macro (metropolitan) diversity affect community social cohesion and economic productivity?; (2) Is the effect of macro (metropolitan) diversity on community social cohesion and economic productivity mediated by meso (institutional) diversity; (3) Is the effect of macro (metropolitan) diversity on community social cohesion and economic productivity conditional on meso (institutional) diversity or

economic inequality? This research addresses a gap in the literature, and also has the potential to inform social policy and judicial sentiment related to the provision of equal opportunities in education, housing, and the labor market.

BACKGROUND

Understanding how societies adapt in the face of social change has been a long-standing focus of social science research. Sociologists in particular have sought to identify and examine factors that contribute to societal harmony and social discord. Over time, this focus on harmony and stability or discord and instability has been framed as analyses of social solidarity or social cohesion.

Social Solidarity

One of the earliest perspectives on social solidarity comes from Emile Durkheim ([1933]1984), who wrote extensively in the early 20th century on social solidarity and the connection between the individual and society. While Durkheim's main focus was on what he perceived as a moral disintegration of society and atomization of people into more individualistic roles and occupations as a consequence of industrial advancements in the late 19th and early 20th century, his contributions regarding social connections between people and societies in the context of social change are particularly relevant to the present study. Durkheim differentiated between two types of social solidarity – mechanical and organic. Solidarity through similarity, or mechanical solidarity, refers to social bonds connecting alike others, such as tightly knit familial or kinship groups, rural communities, or other groups defined by a shared salient identity. Mechanical solidarity is the type of social bond that characterized pre-modern, agrarian societies. In contrast, organic solidarity describes social bonds maintained across group boundaries, as modern

industrial advances required people to take on various social roles and different occupations. Organic solidarity characterizes modern societies, Durkheim surmised, as increasing differentiation in social roles and occupations required that social interactions occur between people who may, or may not, share a common group identity.

Social Cohesion

Social cohesion is the contemporary equivalent of Durkheim's social solidarity. As a phenomenon important to societal well-being, social cohesion has received considerable attention in international academic and policy circles (especially in Europe and Canada compared to the United States). However, the concept of social cohesion remains ambiguously defined (Chan, Ho-Pong, and Chan 2006). Sometimes it is useful to define a concept by what it is most different from, such as Lockwood (1999), who claims that the opposite of social cohesion is social dissolution. Chan and colleagues (2006) review academic and policy work on the concept of social cohesion and designate its popular usage as a "catchword" to encompass the solution to any pressing social issue deemed to be problematic, such as poverty, discrimination, and unemployment among others. Friedkin (2004) suggests that the difficulty in reaching a clear definition of social cohesion is due to the complexity in linking the diverse set of individual-level indicators by which other scholars have defined and examined the concept.

Social cohesion has been defined by individual-level attitudes and behaviors that indicate attachment to a group, yet the same individual-level attitudes and behaviors that define social cohesion could also be antecedents or consequences of others (Friedkin 2004). For example, individual-level attitudes and behaviors may also contribute to group-level conditions that in turn shape individuals' motivation to maintain group

membership (Friedkin 2004). Mickelson and Nkomo (2012) suggest that social cohesion pertains to the connection of the individual to the group; social cohesion, "…at the macro level emerges from and rests on collective individual attitudes and behaviors" (p. 198). Chan et al. (2006) emphasize, however, that a good definition of social cohesion must include only "constituents" of the phenomenon, and not entities that could also be construed as causes of social cohesion. Freidkin (2004) suggests that both group- and individual-level components of social cohesion must be treated as an assortment of causally-related phenomena:

> Groups are cohesive when group-level conditions are producing positive membership attitudes and behaviors and when group members' interpersonal interactions are operating to maintain these group-level conditions (Friedkin 2004: 410).

What makes a cohesive relationship between individuals and society, however, may not necessarily have anything to do with a person's affection, acquaintance, or attraction to the group. For example, some perspectives on social cohesion see social order as maintained by social norms that govern individual behaviors that do not depend on affective attitudes held by people towards others; rather what determines social cohesion is a universalistic "…recognition of a common normative order required for fulfillment of individual goals" (Portes and Vickstrom 2011:473). Cohesion, in this sense, "…is predicated on the opportunities [society offers] to all to fulfill their individual goals" (Portes and Vickstrom 2011:475).

Other scholars claim, however, that the viability of a society in which all members have an opportunity to fulfill individual goals may depend upon the nature of social interactions between individuals and groups within society. Chan and colleagues' (2006) definition of social cohesion includes "…both the vertical and horizontal

interactions among members of society as characterized by a set of attitudes and norms that includes trust, a sense of belonging and the willingness to participate and help, as well as their behavioral manifestations" (p. 290). By horizontal interactions, the authors are referring to social ties between individuals and groups within society; by vertical, they refer to the relationship between the state and the citizen, or civil society.

Another concept related to social cohesion is collective efficacy. Originating in criminological research, collective efficacy represents a neighborhood-level phenomenon, which theoretically defined is "social cohesion among neighbors combined with their willingness to intervene on behalf of the common good" (Sampson, Raudenbush, and Earls 1997: 918). The collective efficacy construct is often operationalized with a summary scale of measures of informal social control, social cohesion, and trust aggregated to the neighborhood level (Sampson, Raudenbush, and Earls 1997). In this literature, social cohesion, viewed as a component of collective efficacy, is defined as aggregate measures of individuals' willingness to help their neighbors, perceptions of their neighborhood as close-knit, perceived trustworthiness of neighbors, and the degree to which neighbors perceive shared values (Sampson, Raudenbush, and Earls 1997). Collective efficacy has been found to mediate the relationship between neighborhood disadvantage and crime (Sampson, Raudenbush, and Earls 1997; Morenoff, Sampson, and Raudenbush 2001). This concept is relevant to the present study as it is another example of how researchers have incorporated the importance of social ties that link individuals to their neighborhoods, which is predicted to decrease crime and increase communal solidarity.

Social cohesion, as a societal attribute, is thought of as necessary for a stable democracy, especially in pluralistic societies (Oder 2005; Braddock and Gonzalez 2010), and Oder (2005) states that social cohesion implies a "tolerance and respect for diverse others" (p. 78). According to Chan et al. (2006), social cohesion does not necessarily imply any ideological system; rather it is one of many social values. The values that may correlate with social cohesion (e.g., democracy, tolerance, respect for diversity) are not ubiquitous across societies, but depend on the sociocultural characteristics of a society. To cohere, literally, means to stick together, which Chan and colleagues (2006) suggest can be evidenced through the following three criteria: (1) if people can trust, help, and cooperate with others in their society; (2) if people share a common identity and sense of belonging to their society; and (3) the "subjective" feelings in (1) and (2) are reflected in "objective" behavior (p. 289).

Social cohesion is a figurative term, meaning that most people will have some idea of what it means (Chan et al. 2006). Ultimately, the usual premise is that social cohesion is a "good thing" (Forrest and Kearns 2000, 2001). However, social cohesion is a multidimensional concept. Social cohesion is very closely related to an important sociological concept and theory, social capital. The following section differentiates between different types of social cohesion, its relationship to social capital, and ultimately why this study is framed in terms of social cohesion.

Social Cohesion and Social Capital

While both social cohesion and social capital describe social connections between people in society, the concepts are typically operationalized differently. Traditionally, social capital is treated as a micro-level concept, referring to an individual's social

network connections that facilitate their access to some sort of social or economic benefit. Sociologists have consistently demonstrated the importance of *whom* we know in addition to *what* we know for achieving upward social mobility (Bourdieu [1986]2007; Coleman 1988; Granovetter 1973). Social cohesion, on the other hand, is generally conceptualized at the macro-level, and referred to as an attribute or condition of society (Chan et al. 2006).

Social capital as a concept rose to prominence through the works of Bourdieu ([1986]2007) and Coleman (1988), whose definitions of social capital form the foundation of the consensus regarding the concept today (Knudsen, Florida, and Rousseau 2005). According to Bourdieu, social capital "is the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition" (p. 88). Coleman (1988) defines social capital as "…a variety of different entities [all consisting] of some aspect of social structures, and they facilitate certain actions of actors—whether persons or corporate actors—within the structure" (p. S98). Putnam (1993) offers a slightly different, but widely influential, definition of social capital by incorporating dimensions of trust and civic engagement. He defines social capital as the "…features of social organization such as networks, norms, and trust that facilitate coordination and cooperation for mutual benefit" (p. 35). In *Bowling Alone*, a book on the decline of civic engagement and social capital in the United States, Putnam (2000) presents data from a variety of sources that point to several potential reasons for overall declines in community organizational membership, engagement in civic affairs, community volunteerism, informal sociability, and social trust, all of which constitute his index of

social capital. Providing various examples of state-level analyses, Putnam (2000) finds that the social capital index is positively correlated with gender equality, racial equality, and support for civil liberties. Higher social capital is also correlated with lower income inequality, lower mortality, better public health, and better child welfare. Putnam (2000) associates declining social capital as both symptom and cause of extensive civic disengagement, which, to Putnam, is evidence of a lack of cohesion in society. Others criticize his argument, however, as tautological (see Portes and Vickstrom 2011).

Although social capital has traditionally been operationalized as an individual- and group-level concept, some conceptualize social capital as a collective good and requisite component of social cohesion (Putnam 1993, 2000; Forrest and Kearns 2001). Social cohesion and social capital are complimentary concepts according to Forrest and Kearns (2001): "…social cohesion at the societal level may be derived from the forms and quality of social interaction at the local level" (p. 2137). In this sense, social cohesion represents a macro-level phenomenon with social capital constituting its micro-level foundation.

Social cohesion and social capital are both multidimensional constructs (Friedkin 2004; Knudsen et al. 2005). In a suitable analogy, Putnam (2000) differentiates two forms of social capital, bonding social capital and bridging social capital: "Bonding social capital constitutes a kind of sociological superglue, whereas bridging social capital provides a sociological WD-40" (p. 23). This difference is crucial, as the type and quality of an individual's social network ties directly impact the type and quality of institutions to which he/she can access. Bonding social capital in the extreme can have the effect of social closure, at the cost of exclusion of others (Portes and Landolt 1996).

Closed, homogenous social networks tend to be associated with exclusion of non-members, which increases the bonding social capital of the in-group members, but often to the detriment of the social and economic integration of the group in larger society. In contrast, bridging social capital refers to the resources achieved through social connections that "bridge" individuals of different groups or networks (Putnam 2000). Bridging ties are the social connections between "socially dissimilar" people, or people who may differ along key demographic lines.

Bridging social ties

According to Briggs (2003), bridging ties serve to connect individuals of different status groups, social roles, interests, and worldviews. Bridging connections become increasingly important in *diverse* societies, since they can open up insular networks, reduce interracial/ethnic or other group tensions, and expand communication and exchange of valuable information (Briggs 2003). Briggs (2003) suggests that while close bonding ties provide crucial social support, bridging ties are most valuable for "getting ahead" (p. 10).

The study of bridging social ties has a long history in sociology, which appears in early works of Laumann (1972), who sought to find out what social, economic, cultural, or other characteristics created homophily even between individuals of different groups, and Blau (1977) who analyzed cross-cutting social ties, and found that individuals' positions in the social structure exerted a fundamental influence on social and economic advancement, more than cultural values or norms. Several works by Granovetter (1973, 1985) discuss bridging connections within social institutions, which he refers to as "weak ties," which allow access to other levels of the social structure. Cross-network ties are

particularly important for mitigating socioeconomic disadvantage, as connecting with people in potentially more advantageous social networks can open up social, economic, and educational opportunities that may not have been possible within one's immediate network.

In the U.S., increasing racial and ethnic diversity associated with rapid non-White immigration underscores the importance of racial/ethnic bridging ties, which Briggs (2003:3) describes as "among the most precious" in light of this country's long history of racial divisions. The history of race and racism in the U.S. continues to have considerable influence on race and ethnic relations today, and although local dynamics of race bridging ties likely vary, social ties between all groups are increasingly important in light of growing ethnic diversity in U.S. society.

Open social networks include a diverse array of social connections that facilitate individual growth and opportunity for educational and occupational advancement. Social relationships may partly reflect a personal choice, but with whom we may choose to form a relationship is also shaped by opportunity (Briggs 2003). Lower frequency of racial bridging ties is an indication of racial isolation, which is both cause and consequence of structural patterns, such as residential segregation or racial isolation at various institutional levels.

Social trust

A number of scholars discuss social capital as founded upon trust; the fluidity and success of social networks is contingent upon mutual cooperation and an interpersonal orientation characterized by general trustworthiness (Mistzal 1996; Kramer 1999; Heyneman 2000). Social trust is a constituent element of Chan et al.'s (2006) definition

of social cohesion as well as Putnam's (1993, 2000) definition of social capital. Occupying a "silent presence" in classic sociological works, trust has emerged as a concept countering atomistic individualism and as a new mechanism of societal integration (Mistzal 1996:1). Understanding social order in modern society, according to Mistzal (1996) requires an investigation into the quality of social relationships, which is observable through interpersonal trust (Mistzal 1996; Phan 2008). Research by Knudsen, Florida, and Rousseau (2005), suggests trust may not be a valid dimension of social capital. In a test of the multidimensionality of social capital, Knudsen, Florida, and Rousseau (2005) performed an exploratory and confirmatory factor analysis using Putnam's Social Capital Community Benchmark survey data and found that social trust did not load adequately on either the bridging or bonding forms of social capital. Knudsen and colleagues' (2005) indices of social capital also were found to have significant effects on economic growth when aggregated to the regional level. This may imply that social cohesion is social capital in aggregated form.

Trust persists, however, as an established component of social cohesion (Chan et al. 2006; Dickes, Valentova, and Borsenberger 2010), and is a focal variable in many studies of social capital, diversity, and social cohesion. Misztal (1996) posits that trust is not spontaneous, but contingent upon social order reproduced in social institutions. Social institutions structure the ways people interact with each other, thus, Misztal (1996) asserts that since sociological theorists began to grapple with the question of what holds society together, trust has been an implicit component of sociological theories concerned with how to establish and maintain social order, while preserving diversity. The value in examining trust as a mechanism of social cohesion is to understand the "…conditions in

which people can learn to deal with one another in a trustworthy way without making everyone feel the same" (Misztal 1996:11). Chan et al. (2006) note that social cohesion does not solely involve people's feelings and attitudes, but it is the subjective and objective components that constitute a cohesive society: "…a high level of willingness to cooperate and help would be meaningless unless it is also witnessed by substantial amount of social and political participation" (p. 290).

Theoretically, a society with high levels of ethnic segregation cannot be considered cohesive, even though there may be high levels of bonding social capital within segregated communities (Chan et al. 2006). Social cohesion is contingent upon meso-level contextual factors that shape social interactions between individuals and groups. Social cohesion in a diverse society requires that individuals learn and develop the skills necessary to work with and engage with diverse coworkers, colleagues, neighbors, and others. In multiethnic societies like the United States, it is virtually "[guaranteed] that contact takes place between dissimilar people" (Pettigrew 1998:74). Moreover, in any society with problems of racial inequality, social interactions and exchanges of ideas between racially diverse groups shape the collective prospects for social cohesion and economic prosperity across entire localities. Thus, social cohesion in diverse communities depends on favorable contextual conditions in which diverse individuals interact (Mickelson and Nkomo 2012).

The treatment of social cohesion as a societal attribute rather than any individual's sole possession differentiates the concept from social capital (Chan et al. 2006). While social cohesion can be operationalized at the micro-, meso-, and macro-levels, "the aim is to aggregate the individual-level information and describe the social cohesion of different

groups/regions/communities" (Dickes et al. 2010:454). The present study is framed in terms of social cohesion, as one of the study's aims is to analyze how diversity and the institutional structuring of diversity impacts *society,* rather than individuals. A significant portion of the existing literature on social cohesion and diversity is framed in terms of social capital or single-indicators of social cohesion, like social trust. The multidimensional nature of the construct necessitates a consistent awareness of how social cohesion manifests in individuals' attitudes and behaviors.

Defining Diversity

By definition, diversity suggests difference or variety. In the social sciences, the term usually refers to social organizations and institutions which include a broad range of individual differences, such as socioeconomic status, religion, gender, race, ethnicity, age, sexuality, disability status, and other personal or demographic characteristics (Hallinan 1998; Herring 2009). Herring (2009:209) writes,

> Generally, diversity refers to policies and practices that seek to include people who are considered, in some way, different from traditional members. More centrally, diversity aims to create an inclusive culture that values and uses all talents of would-be members.

First, in Herring's (2009) definition, diversity refers not only to differences, but an active *inclusion* of people who are not members of the mainstream, which typically refers to white, middle class, heterosexual males. The inclusion of diverse people, second, is accompanied by specific aims to value and effectively and equitably utilize the talents of all people included; diversity should be effectively "managed" (Thomas 1990). The focus of the present study is race and ethnic diversity; a community may be ostensibly diverse at the macro-level of observation, but *how* diversity is structured and managed at

the meso-level, in terms of equal opportunity for participation and advancement, is a crucial variable.

Diversity and Segregation

The distinction between diversity and the effective management of diversity alludes to the familiar juxtaposition of desegregation with integration. Historically rooted in the legal realm of education policy, desegregation and integration carry important implications for social justice and racial barriers to educational opportunity (Bell 2003; Frankenberg 2012). A segregated context generally refers to one that is racially isolated, where 90-100% of the individuals within a particular context are persons of color (minority segregated) or 90-100% white (majority segregated). A desegregated context generally refers to the extent to which a specific organizational context is *less* racially isolated. For a desegregated setting to be *integrated,* however, the social relations and other exchanges between people of various groups must occur on terms of equal social status.

The problem of separation and isolation of race/ethnic groups in U.S. society was long ago diagnosed as the "problem of the 20th century" by the eminent scholar and Civil Rights activist W.E.B. Du Bois (1903). From the late 1960s and onward, widespread technological advancements and economic shifts in the labor market led to rapid deindustrialization and decay in many American city centers. White flight to the suburbs worsened the race/ethnic and low-income group segregation in city centers as inner-city neighborhoods and schools became increasingly absent of white residents. Ensuing job relocation to suburban areas facilitated an outmigration of White and Black middle class residents, and left city centers vacant of adequate job opportunities for the primarily poor

and minority groups who remained there. Inner cities became pockets of concentrated poverty (Wilson 1997). Segregation by race/ethnicity has played a sordid role in the creation and reproduction of inequality in American neighborhoods; residential racial segregation has been established as the "missing link" in our understanding of the reproduction of socioeconomic inequalities in poor neighborhoods across U.S. cities (Massey and Denton 1993).

An examination of diversity at the macro-level misses the segregation happening on the meso-level, which shapes intergroup dynamics, racism, prejudice and discrimination, in turn, affecting social cohesion and minorities' opportunities for economic advancement. Integration in social institutions implies that people can participate equally in terms of process and outcome. An unequal "geography of opportunity" (Briggs 2005) based on race, place and social class precludes equality of socioeconomic outcomes. Segregated schools and neighborhoods isolate poor minority communities, constraining people in spaces and institutions with limited resources and infrastructure to facilitate socioeconomic advancement (Massey and Denton 1993).

Living in segregated neighborhoods and attending segregated schools has lifelong consequences. Segregation perpetuates across institutional contexts over the life course, and plays an important role in the maintenance of racial inequality (Braddock 1980; Wells and Crain 1994). Known as perpetuation theory, this perspective is informed by substantial body of empirical evidence on the long-term adverse effects of school segregation on the life chances of racial/ethnic minorities, and on social isolation in adulthood among all races. Early experiences in segregated settings such as schools and neighborhoods lead to segregated experiences later in life, such as in higher education,

neighborhoods, and workplaces (Braddock 1980; Braddock and McPartland 1989; Dawkins and Braddock 1994; Wells and Crain 1994; Braddock and Eitle 2004; Goldsmith 2010; Stearns 2010). This research demonstrates that both school and neighborhood segregation carry substantial implications for individuals' future educational and occupational opportunities.

Perpetuation theory underscores how the interconnections among social institutions impact social mobility (Braddock, 1980; Braddock and McPartland 1989; Wells and Crain 1994). Previous studies have investigated the relationship between school and neighborhood segregation (Goldsmith 2009; Braddock and Gonzalez 2010; Goldsmith 2010). Studies by Goldsmith (2010) and Braddock and Gonzalez (2010) highlight the importance of intergroup exposure in school and neighborhood contexts for shaping young people's dispositions and behavioral orientations that incline and push them towards institutions (segregated or desegregated) like they experienced as youth. Goldsmith (2010) examined the effects of teenagers' neighborhood racial composition on the racial composition of their adult neighborhood. His results showed that teenagers who grew up and moved out of their parents' home, in turn, moved into a neighborhood very similar in racial composition to their parent's neighborhood. Furthermore, between those two move points, these students also attended colleges that were also similar in racial composition to their high schools. Braddock and Gonzalez (2010) identified youths' school and neighborhood composition as significant predictors of their intergroup orientations. To varying degrees, they found that Blacks, Latinos, Asians and Whites are likely to feel social distance and express preferences to have same-race neighbors and

same-race classmates for their children, as a consequence of previous school and neighborhood segregation.

In a neighborhood-based public school system like the U.S. public education system, residential segregation is closely linked to school segregation. Residential segregation creates structural differences in the quality of resources that individuals can access through social institutions in their neighborhood, particularly the quality of educational institutions. Given the tax and funding structure by which the public education system operates, residential segregation and school segregation often reproduce each other. Neighborhood-based schools make it possible for students to attend school near where they live. The schools' reliance on local property taxes for operation, however, creates inequality and largely determines the quality of education that students receive in regard to academic and vocational programs and materials, supplies, facilities, and teacher quality and tenure (Kozol 1991). Homes in majority-White affluent communities have higher value, and thus are able to derive more tax revenue to fund their local schools. A school within a minority-segregated neighborhood, with less desirable homes and land values are unable to fund schools equitably, virtually guaranteeing that students in these areas will *not* receive equitable educational opportunities compared to better schools in more affluent neighborhoods (Kozol 1991).

Diversity, as opposed to desegregation, however, is not grounded in the same legal history and does not connote the same ideal of social justice as the other terms. This is why it is important to specify the institutional context of diversity. For example, a metropolitan area can be diverse at the macro-level; the distribution or count of residents may be spread across several race/ethnic groups. However, when the *context* of diversity

goes unidentified, it is impossible to ascertain whether or not the same metropolitan area is segregated at the meso-level, by the same race/ethnic groups visible at the macro-level.

Diversity arose as a social and political concern to mitigate the effects of a history of prejudice and discrimination that limited minorities' equitable participation in society. This history of affirmative action shows that diversity, or diversification, is the only remaining basis for upholding affirmative action institutional policies (Hallinan 1998). Diversification, or the creation of a diverse, multicultural environment, is viewed as a laudable goal due to the social science evidence, for example, that shows how desegregated schools decrease racial prejudice. Studies of higher educational institutions also show that positive social relationships between individuals of diverse race/ethnic backgrounds reduce racism (Hallinan 1998). Hallinan (1998) notes, however, that the positive effects of diverse institutions can be reduced or even eliminated if race-ethnic heterogeneity is not supported or effectively managed.

David Embrick (2011:542) asks a crucial question: "Does diversity mean equality?" Diversity does not connote the similar human rights and social justice agenda as do the terms desegregation or integration. In fact, diversity sometimes inspires political and emotional reactions, in response to affirmative action legislation (Herring 2009). To many Whites, racism and discrimination are in the past, as they perceive that America long ago transitioned out of the Jim Crow era and African Americans made considerable gains during the Civil Rights Movement (Bonilla-Silva 2001). Thus, many Whites believe that policies specifically directed at eliminating discrimination and racism (such as affirmative action) are no longer necessary. Indeed, affirmative action on the basis of race and/or gender often evokes hostility and resentment, as such policies are

viewed as damaging and unjust to Whites and males (Bonilla-Silva 2010). In some cases, diversity is equated with reverse discrimination (Embrick 2011).

By and large, however, diversity is celebrated (Bell and Hartmann 2007). Colleges and universities readily advertise the diversity of their campuses. Particularly in corporate America, businesses promote themselves as equal opportunity employers, and futures are tenuous for businesses that do *not* value and encourage a diversity-friendly culture. According to Embrick (2011), whether or not diversity is promoted in organizations is not the central issue. Embrick (2011) argues that the term has been "strategically coopted" by large corporations who have created a diversity ideology in order to "…portray themselves as supporters of racial and gender equality, while simultaneously [making] no real substantial changes in their policies or practices to create real changes in the racial and gender composition of their workplaces" (p. 544). He stresses that while organizations may be ostensibly diverse, their actual internal practices and policies may not reflect any actions taken to ensure equality of opportunity for upward socioeconomic mobility, such as promotions and hiring. Thus, diversity at the macro-level can mask underlying inequities that continue to structure intergroup relations and minorities' opportunities for advancement within organizations (Bell 2003).

Diversity and social cohesion

Some recent statements on the state of social cohesion in a diverse society are retrospective. In light of increasing cultural diversity in the U.S., some scholars arouse concern that the nation's social order is in jeopardy, as increasing race/ethnic diversity is equated with increasing cultural fragmentation. They evoke a "crisis of social cohesion" (Reich 1992; Fukuyama 1999; Putnam 2007, Castells 2010). Their concerns, much like

the concerns of classical sociological theorists of the early 19th and 20th centuries, focus on how societies adapt and progress in the context of social change (Callinicos 2007). Specifically, contemporary scholars are concerned about the expansion of the global economy and increased individualistic competitiveness (Reich 1999; Castells 2010). They posit that the consequence of these changes is a "disruption" in moral values, mainly increased crime and disorder at a detriment to close family and kinship bonds (Fukuyama 1999). Putnam (2007) asserts that increasing racial and ethnic diversity poses a considerable challenge to establishing cohesive, productive communities in the modern age. To Putnam, the downside of diversity is that it serves to undermine social cohesion because people of diverse groups cannot relate to one another and thus interact less, strengthening in-group bonds and widening social distance between different groups. This is partially true, as the "downside" of bonding social capital is the strengthening of in-group bonds to the detrimental exclusion of others (Portes and Landolt 1996).

The parallel between the statements regarding social cohesion by Reich (1999), Castells (2001), and Fukuyama (1999) and classic sociological statements on maintaining social order in a changing society is striking. The reputed "crisis" of social cohesion is comparable to Durkheim's ([1933]1984) concern for a moral disintegration as society was becoming more industrially and technologically advanced. However, this "crisis" may be overdrawn and has been called "reactionary" (Portes and Vickstrom 2011). Scholars such as Reich (1991), Castells (2010), Fukuyama (1999) Putnam (2007) and others view social cohesion in a way that idealizes tight-knit, bucolic communities. Indeed, their empirical investigations find that the most cohesive communities tend to be small, rural, and ethnically homogenous. They find that more diverse cities, such as Los

Angeles, New York, and Chicago, are less cohesive, and people less trusting in others. A major critique leveraged at these findings is the failure to account for the impact of social context, or *how* racial/ethnic diversity is structured and managed within particular communities at the meso-level. This includes economic inequality and segregation of social institutions such as schools and neighborhoods.

Meso-level diversity, social cohesion, and economic well-being

Key to the successful incorporation of diverse groups into society is the effective management of diversity, and "ways to foster positive, diverse environments need to be worked out in all of our institutions" (Orfield et al. 2012:13). The conglomeration of different groups with diverse cultural experiences and identities within U.S. society has inspired race and ethnic relations scholars' concern for the equitable integration of diverse social groups into society, particularly in the context of unequal power relations between minority and majority groups in the United States. Research in this area focuses less on macro-level diversity, and more on how diverse racial and ethnic groups are spatially distributed across societal institutions at the meso-level. This research alludes to fact that it may be more important to understand how diversity is "managed" in social institutions, since social cohesion is contingent upon institutional context (Mickelson and Nkomo 2012; Friedkin 2004, Misztal 1996).

In a diverse society structured by inequality with evolving manifestations of discrimination, prejudice, and racism, the importance of inter-group social cohesion and social connections is apparent. The present study focuses on how social context shapes social interactions that constitute social cohesion at the societal level. Previous research on social interactions and social networks in segregated communities has often found that

socialization in diverse contexts makes it more likely that an individual will feel comfortable and willing to interact cooperatively and hold less prejudiced attitudes towards outgroup others later in life (Briggs 2003; Braddock and Gonzalez 2010). Segregated institutions, such as schools and neighborhoods, limit the number and range of contexts in which minority and majority individuals are able to interact and potentially foster positive inter-group relations. Thus, segregated institutions result in racially isolated social networks, which in turn, are perpetuated across social institutions, and over the life course (Braddock and McPartland 1989).

Under certain institutional conditions, diversity can foster economic productivity and growth at the metropolitan level. It has long been asserted, for example, that immigration increases economic productivity of U.S. cities (Ottaviano and Peri 2005). However, in communities where new minority groups are constrained to segregated institutions – schools and neighborhoods – the potential benefits of diversity resulting from immigration, including greater economic productivity may be diminished. Additionally, the likelihood that new race/ethnic immigrant minorities will move into existing poor minority communities reproduces unequal opportunities for obtaining quality education, housing, and employment (Wilson 1997). While such racially and ethnically insular communities may be close knit in terms of identity, whether it is group membership identity or neighborhood identity, the closed social networks that characterize these areas often have a detrimental effect on residents' ability to escape poverty (Massey and Denton 1993; Wilson 2012).

Purpose of the Study

A growing body of research examining the effects of diversity has produced mixed evidence. Macro-level studies tend to report that diversity in communities, states, and nations is inversely associated with many dimensions of social cohesion. Meso-level studies, on the other hand, often show that in particular institutional contexts such as schools or neighborhoods, diversity is positively associated with social cohesion as well as organizational productivity. Because meso-contexts (neighborhoods and schools) are nested in macro-contexts (metropolitan areas), this mixed evidence suggests the need to examine "diversity within diversity". Thus, the issue of how communities, states, or nations can effectively structure and manage diversity (in neighborhoods, schools, workplaces, and the like) to promote social cohesion and productivity represents an important research and policy question. Utilizing a unique data set, this study examines, directly, how diverse institutional contexts impact social cohesion and economic productivity across major metropolitan areas in the U.S. Specifically, I examine whether school and neighborhood diversity has an impact on these outcomes at the aggregate metropolitan level, and if so, under what macro-contextual conditions does diversity yield positive or negative outcomes? As Oliver and Shapiro (2006) cogently assert, "segregation is the lynchpin of race relations in America" (p. 267). Furthermore, interracial social cohesion is of specific concern given the country's history of racial division, and persistent inequality (Briggs 2003). Thus, it is important that researchers consider the conditions under which diversity is experienced, and how varying levels of institutional racial and ethnic segregation affect key socioeconomic outcomes in the aggregate.

Significance of the Study

A major strength of this research is its potential utility to multiple stakeholders in education and social policy. The findings will be potentially useful to federal, state, and local government officials as well as school administrators looking to understand the broader implications of institutional diversity on the social and economic well-being of their communities. As such, this research not only addresses a gap in the research literature, but also has the potential to inform judicial and social sentiment related to equality of educational and occupational opportunities. This research further has the potential to motivate community organizers to facilitate cross-community and neighborhood ties.

Research Contributions

There are three primary scholarly contributions provided by my dissertation research: 1) the unique data set generated to examine diversity effects, 2) the sociological concepts relied upon, and 3) the societal-level investigation of the relationships between diversity, social cohesion and economic productivity and well-being.

First, I analyze a data set that I created to investigate macro- and meso-level diversity effects. My core data file is based on the 33 U.S. communities represented in the Social Capital Community Benchmark Survey (SCCBS). Following similar procedures to Briggs (2003), who also linked SCCBS survey data to U.S. Census data, metropolitan area codes provided by the U.S. Census are used to link SCCBS data to Census and other archival data on U.S. metropolitan areas.

Second, assessing the impact of diversity on community or societal outcomes requires a specification of the institutional context under which diversity is experienced,

along with a consideration of multiple institutional contexts. I operationalize diversity in schools and neighborhoods using a multi-group measure of segregation, the entropy index, or Theil's *H*.

The SCCBS contains numerous measures which tap individuals' attitudinal and behavioral orientations toward other individuals and society, which I will employ as indicators of social cohesion. These measures include general social trust, interracial trust, racial/ethnic bridging ties, civic participation and political activism.

Economic productivity and well-being is included in this study to test the hypothesis that positive intergroup relations yields not only a more cohesive community, but also a more productive and prosperous one as well. To measure economic productivity and well-being for each metropolitan area, I utilize per capita Gross Domestic Product (GDP), residential segregation by skill, and the average education gap index.

This dissertation is organized as follows: Chapter 2 reviews existing empirical studies examining the relationship between diversity and social cohesion and economic productivity and well-being. Chapter 3 outlines the theories that guide this study, and describes the conceptual model examined in this study. Chapter 4 describes the research methodology, including the construction of the data set, the operationalization of key variables, and the analytical process employed. Chapter 5 reports results of the analysis. Finally, Chapter 6 discusses conclusions drawn from the analysis, as well as potential implications for social policy and directions of future research.

CHAPTER 2

LITERATURE REVIEW

The following chapter reviews the extant empirical literature on the relationship between diversity and social cohesion and diversity and economic prosperity at the micro, meso, and macro levels. Figure 1 displays summaries of all studies. By and large, findings are mixed. Micro-level research shows positive short-term and long-term effects of diversity on individuals in terms of intergroup orientations (Patchen 1982; Hallinan and Smith 1985; Hallinan and Teixeria 1987; Gurin, Nagda, and Lopez 2004; Killen, Crystal, and Ruck 2007), but research is mixed in regard to and academic and occupational outcomes (Bankston and Caldas 1996; Mickelson 2001; Borman, Eitle, Michael, et al. 2004; Mickelson 2006). Studies of meso-level diversity effects find that segregation and the socioeconomic context of communities often leads to lower levels of social cohesion and economic productivity (Briggs 2003; Marschall and Stolle 2004; Kurlaender and Yun 2005; Phan 2008; Braddock and Gonzalez 2010; Portes and Vickstrom 2011; Rothwell 2011; Uslaner 2011; Wu, Hou and Schimmele 2011; Gijsbert, van der Meer, and Dagevos 2012; Krivo, Washington, Peterson, and Kwan 2013). Similar studies utilizing meso-level factors, however, have also reported both positive and negative findings (Sigelman, Bledsoe, Welch, and Combs 1996; Glaeser, Scheinkman, and Shleifer 1995; Alesina, Baqir, and Easterly 1999; Moody 2001; Kochan, Bezrukova, Ely, et al. 2003; Quillian and Campbell 2003; Stolle, Soroka, and Johnston 2008; Gonzalez and Denisi 2009; Lee 2010; Laurence 2011; Uslaner 2011; Gundelach and Freitag 2014). Finally, studies of diversity at the macro-level also report both negative and positive findings (Putnam 2000; Hero 2003; Costa and Kahn 2003;

Ottaviano and Peri 2004; Delhey and Newton 2005; Ottaviano and Peri 2005; Putnam 2007; Lee 2011).

Micro-level Diversity

At the individual level, studies tend to assess how diversity affects individuals' attitudes and behaviors towards intergroup relations, and individuals' academic and occupational outcomes. Education researchers have assessed the impact of classroom racial composition on students' outgroup orientations, such as friendship choices, noting that the effect varies by race (Hallinan and Smith 1985, Hallinan and Teixeria 1987). For example, controlling for students' initial friendliness, the percent Black in classrooms positively impacts White students' likelihood of choosing a cross-race friend, but negatively affects Black students' cross-race choices (Hallinan and Smith 1985). In a similar study, Hallinan and Teixeria (1987) found similar results for Whites, though the same relationship was not significant for Blacks. Furthermore, Whites students' likelihood of making cross-race friendship choices was positively affected by the absence of ability grouping, which the authors frame as a "status leveling" context. Other studies that consider contextual variation report similar results, in that a positive diversity climate positively impacts students' views on racial differences and social exclusion (Gurin, Nagda and Lopez 2004; Killen, Crystal and Ruck 2007). Gurin and colleagues (2004) found that college students participating in diversity-friendly discussions and events were more likely to report stronger diversity-inclusive attitudes and perceive more commonality with students from other backgrounds. Among elementary-aged children, Killen and colleagues (2007) found that students in racially heterogeneous classrooms with high frequency of intergroup contact were more likely to voice moral concerns

towards racial exclusion. In contrast, Glaeser and colleagues (2000) carried out a controlled experimental design with a group of college undergraduates and found that trusting behaviors were more visible between students who shared the same race and nationality. In a sample made up of primarily Asian and White students, Whites in White/non-White pairs were more likely to exhibit "cheating" behavior.

Several studies have assessed the impact of diversity on individuals' human capital outcomes, such as student achievement. Long-term outcomes tend to be positive, but short-term outcomes are both positive and negative (Mickelson 2001). As the percent minority race/ethnicity in schools increases, standardized test scores for Black and White students tends to decrease (Bankston and Caldas 1996; Mickelson 2006). In a study of public schools in Florida, Borman and colleagues (2004) found that students in elementary and middle schools with a racial composition of 50% Black or more had lower standardized test scores, compared to schools with less than 15% Black students, controlling for per pupil spending, class size, and teacher quality. In the same study, using the same controls, students in racially integrated schools (where the school's enrollment of Black students fell within 15% of overall district's percent Black) compared to segregated-White schools were less likely to pass the Florida state standardized test (Borman et al. 2004).

Existing research on the long-term effects of diversity at the individual level focuses on outcomes such as educational and career mobility, and findings are more consistent. Most research in this area addresses the perpetuation of segregation across institutional contexts, and how segregated educational experiences, for example, limit educational and career mobility (Braddock 1980, Braddock, Dawkins and Trent 1994,

Stearns 2010). The primary reason segregation limits upward social mobility is by creating systemic barriers to important social institutions and resourceful social networks that can provide important job-seeking information (Braddock and McPartland 1989). Desegregated settings can also provide credentials and/or status that are perceived to be more desirable, and lead to rewarding occupational and educational outcomes (Braddock and Eitle 2004). For example, research has shown that when employers consider African American job applicants, they prefer to hire graduates of desegregated rather than majority minority schools (Braddock, Crain, McPartland and Dawkins 1986; Neckerman and Kirschenman 1991). These barriers effectively limit the extent to which minority individuals can equitably participate in society, and have serious implications for race equity not only in education and employment, but also for a multiethnic democratic society (Mickelson and Nkomo 2012).

Macro-level Diversity

As noted in Chapter 1, current immigration patterns have led to concerns that diversity adversely impacts social cohesion and economic growth (Reich 1991; Putnam 2007; Castells 2010). In the empirical literature, however, research shows that the relationship between diversity and social cohesion and economic productivity is complex, and findings, as of yet, are largely inconclusive. Lee (2011) suggests that inconsistency in findings may be primarily due to variation in measurement and study design.

Macro-level diversity and social cohesion

Macro-level racial and ethnic diversity refers to a given area's overall counts or proportions of racial/ethnic groups within a specific geographic area. Macro-level diversity is often measured using the racial/ethnic fractionalization index, or the

Herfindahl index, which indicates the probability that two randomly drawn individuals from a given geographic area will be of the same ethnic group (Vigdor 2002).

In a cross-national study of the relationship between ethnic fractionalization and aggregate levels of social trust, Delhey and Newton (2005) found that diversity drives down social trust. Two studies of racial fragmentation and social cohesion analyzing U.S. metropolitan-level data show that racial fragmentation negatively impacts social trust (Alesina and La Ferrara 2002) and rates of volunteering (Costa and Kahn 2003); fragmentation by birthplace negatively impacts volunteering, civic engagement, and trust (Costa and Kahn 2003). The mechanisms that explain the negative association between macro-level diversity and social cohesion may have to do with other contextual factors, such as income inequality or socioeconomic disadvantage. Delhey and Newton (2005) found that lower national generalized trust is also significantly related to higher rates of income inequality. Alesina and La Ferrara (2002), who found a negative relationship between ethnic fragmentation and trust, also point out that racial/ethnic heterogeneity has stronger negative effects for communities in which there is strong opposition to racial mixing. Furthermore, the same authors also find in subgroup analyses that Whites disproportionately account for diminished trust in more heterogeneous communities.

Macro-level diversity and economic productivity

The literature on diversity's effects on economic productivity are also mixed. Diversity yields many benefits associated with societal economic growth, yet is also associated with costs. Scholars often discuss how increased immigration of race/ethnic minority groups is linked to more economic growth (Lee 2011), since diversity allows for a "cross-fertilization" of knowledge and ideas (Grafton, Kompas, and Owen 2004) as

people from different backgrounds with varied experiences have an opportunity to cooperate and share perspectives. On the other hand, Lazear (1995) discusses how multiculturalism creates barriers to communication between diverse race-ethnic groups and undervalues the social and economic benefits of assimilation. The assumption here is that heterogeneity precludes shared cultural values and language, which inhibits the efficiency of economic exchanges. Gradstein and Justman (2002) assert that reducing cultural distance has economic advantages, as excessive cultural polarization increases "transaction costs" of social interactions. The empirical question of "does diversity pay?" has been explored by a wide range of scholars who have assessed the effects of macro contextual diversity on various indicators of economic prosperity, such income (Ottaviano and Peri 2004), metropolitan area government spending (Alesina, Baqir and Hoxby 1999), employment growth (Lee 2011), worker output (Grafton, Kompas, and Owen 2004; Sparber 2007b), employment density (Ottaviano and Peri 2005), and industry productivity (Sparber 2007a). An examination and synthesis of these studies shows both a positive and negative influence of macro-level diversity on economic outcomes.

Sparber (2007b, 2007c) assesses the impact of racial fractionalization on economic productivity of cities, states, and industries. Utilizing data from the 1980-2000 U.S. Censuses, Sparber's results are consistently positive. At the city level, a one standard deviation increase in diversity yields a 6% increase in economic productivity measured by workers' wages (Sparber 2007b). At the state level, however, diversity yields no similar impact on productivity. Ottaviano and Peri's (2005) study, also at the city level, found that higher linguistic diversity is positively related to higher worker wages and

employment density. Sparber's other study (2007c), analyzing the effect of diversity on net productivity across U.S. industries, found that 21 out of 42 industry categories experience an increase in wages with higher racial fractionalization scores; no industries analyzed were associated with any significant negative effects of diversity. Though when analyzing the impact of diversity on productivity by industry characteristics, he found that industries relying on cooperation and group effort suffered losses to productivity.

Alesina, Baqir, and Easterly (1999) found a negative effect of racial/ethnic fractionalization on cities' relative support for public goods spending. Controlling for sociodemographic factors, the more ethnically fractionalized a city is, the less the city spends on education, police, roads, and sewerage. However, ethnic fractionalization was positively associated with cities' receipt of funds transfers from higher levels of government. Utilizing three measures macro-level diversity (language, ethnic, and religious fractionalization), Grafton and colleagues (2004) find that all three measures negatively impact per worker economic output. Ethnic and language fractionalization also negatively impact aggregate education across countries. The authors emphasized the limits that racial/ethnic fractionalization may place upon communication, exchange, and trade.

A study of employment growth and ethnic diversity in 53 cities in England yielded positive and negative findings (Lee 2010). Using multiple indicators of ethnic diversity, Lee (2010) found that the greater percentage of the city population that is foreign born is associated with higher employment growth, but when predicting employment growth by the percent non-White population and an ethnic fractionalization index, growth declines. In sum, the literature reviewed up to this point shows little consensus regarding how

diversity at the macro-level, measured using indices of racial/ethnic fragmentation, impacts social cohesion and economic productivity. The set of studies that finds a negative impact of macro-level diversity often pose arguments in favor of cultural homogeneity in the interest of greater economic efficiency. These arguments are then contradicted by studies that report positive findings. Across all studies of macro-level diversity effects, none of them offer potential explanations for *how* diversity can lead to both positive and negative economic and social outcomes. Macro-level measures do not consider the impact of the institutional context of diversity, and how individuals within social institutions experience diversity. The social exchanges between individuals that create economic productivity and social cohesion happen in social contexts, at the meso-level. Studies that have assessed the impact of diversity on the meso-level are presented in the following section.

Meso-level Diversity

Research that places diversity within institutional context pays attention to the significance of institutional segregation, discrimination, and prejudice that influence how people navigate through social institutions such as schools, workplaces, and neighborhoods. At this level of analysis, it is possible examine the conditions under which diversity has a positive or negative impact on social and economic outcomes. First, studies that consider diverse institutional contexts find that it is segregation and socioeconomic disadvantage of minority communities that influence a variety of indicators of social cohesion, including casual interracial contact such as friendship (Sigelman et al. 1996; Moody 2001; Quillian and Campbell 2003), interracial bridging ties (Johnson, Bienenstock, and Farrell 1999; Briggs 2003), generalized social trust

(Marschall and Stolle 2004; Phan 2008; Stolle, Soroka, and Johnston 2008; Uslaner 2011; Gundelach and Freitag 2014), intergroup prejudice (Wood and Sonleitner 1996), indices of social capital, which include trust, voluntarism, and civic engagement (Laurence 2011; Rothwell 2011; Gisjbert, van der Meer and Dagevos 2012), sense of belonging (Wu, Hou, and Schimmele 2011), and social distance and racial contact preferences (Kurlaender and Yun 2005; Braddock and Gonzalez 2010). Second, studies that assess the impact of institutional diversity on economic outcomes have analyzed work team performance and sales revenue (Kochan et al. 2003), firm effectiveness (Gonzalez and Denisi 2009), neighborhood economic disadvantage (Krivo et al. 2013), average rates of per capita income (Li et al. 2013), population growth (Glaeser et al. 1995), and government spending (Alesina et al. 1999).

Meso-level diversity and social cohesion

Largely in response to the aforementioned findings regarding the negative impact of macro-level diversity on social cohesion, many scholars have focused increased attention on accounting for the institutional *context* of diversity.

In an analysis of the Social Capital Community Benchmark Survey, which includes analyses of the social capital of 41 communities across the United States, Putnam (2007) found that as ethnic homogeneity increases within communities (using the Herfindahl index across census tracts), so does residents' interracial generalized trust; in relatively homogenous and rural communities (e.g., Bismarck, ND and Lewiston, ME), residents trust "other races" more compared to their counterparts in more ethnically heterogeneous cities like Los Angeles or San Francisco (Putnam 2007). Additionally, he finds that the same measure of diversity increases aggregate levels of intragroup trust and

trust towards neighbors. Diversity, as Putnam (2007) argues, thus threatens social solidarity and fosters social isolation, since people living in ethnically homogenous areas trust people more than in areas that are relatively more heterogeneous; in diverse communities people "hunker down" and associate less with their neighbors, regardless of race/ethnicity, due to overall lower levels of trust (p. 148).

Putnam (2007) ultimately claims that diversity strengthens "bonding capital" – strong social ties among homogenous group members, observed as high intragroup trust – leading to race/ethnic group fragmentation in diverse communities. Putnam's work on social capital and his conclusions regarding the impact of diversity on it across U.S. communities has influenced many scholars to replicate and/or extend research in this area. It is important to point out, however, that the negative impact of diversity on social cohesion may be a short-term consequence. In the long term, Putnam (2007) argues that diversity can also foster "bridging" social capital, or social ties across groups that bring people of different groups together leading to a "broader sense of 'we'" (p. 139).

On the other hand, other scholars have challenged Putnam's (2007) findings in regard to causal direction and spuriousness (Portes and Vickstrom 2011). Additionally, the variation across communities in Putnam's sample is very broad, especially in regard to population size, and urban, suburban, and rural characteristics, such as neighborhood socioeconomic disadvantage. While macro diversity can be associated with lower social cohesion, several studies have shown that meso- or institutional level factors, such as school and neighborhood context, may explain the relationship between macro-level diversity and social cohesion. In Letki's (2008) multilevel analysis, where racial fragmentation negatively impacted one dimension of social cohesion (attitudes towards

neighbors), she also found that neighborhood socioeconomic disadvantage was negatively related to all four dimensions of social cohesion included in the model (see Figure 1 for more details). Portes and Vickstrom (2011) present results from a series of analyses that investigate the role that economic inequality and other contextual factors play in shaping social capital across communities. For example, utilizing Putnam's index of social capital in a model with important contextual factors, they find that a community's prior level of economic inequality is a more important factor than social capital when predicting average levels of academic achievement and poverty.

Uslaner (2010, 2011) argues that segregation explains the relationship between diversity and social cohesion: "high levels of diversity are compatible with perfect segregation, perfect integration, or anything in between" (Uslaner 2010:424). For example, under conditions of segregation and socioeconomic disadvantage, diversity is associated with lower trust (Uslaner 2010; Gisjbert et al. 2011; Rothwell 2011, Uslaner 2011). Utilizing survey data from the Social Capital Benchmark Survey, Uslaner (2011) finds that the impact of diversity on social cohesion across is dependent upon the relative segregation or integration of each community. A community can be either diverse and segregated or diverse and integrated. People living in well-integrated diverse cities such as Seattle, who also have diverse social networks are more likely to be trusting compared to those in a highly segregated city such as Detroit with more homogenous social networks (Uslaner 2011:235). In his analysis of data from the General Social Survey (2000) linked to U.S. census data, Rothwell (2011) finds that racial fragmentation at the macro-level had no significant impact on trust or volunteering, but that two meso-level

diversity measures, residential racial isolation and multi-group entropy, had a negative impact.

Furthermore, majority-minority segregated neighborhoods are also often "double segregated" by race/ethnicity *and* class (Orfield, Kuscera, and Siegel-Hawley 2012). Phan (2008) argues that researchers should focus less on diversity measured out of context, and rather more on structural inequalities, citing group-based discrimination and policy failures as obstacles to creating and nurturing generalized trust in communities. For example, there may be less social cohesion in ethnically diverse neighborhoods because of the neighborhoods' socioeconomic disadvantage (Charles 2001; Letki 2008; Phan 2008). Phan (2008) added a measure of income inequality to analyze the impact of race/ethnic diversity on social trust, and found that at the city level, 70% of the variation in trust was explained by income inequality. In this case, accounting for neighborhood context eliminated the statistical significance of diversity *per se* as a predictor of social cohesion. Letki (2008), on the other hand, found that neighborhood-level racial fragmentation was negatively related to neighborhood residents' attitudes towards other neighbors (e.g., if they enjoy living in the neighborhood, if neighbors can be trusted), and exerted no significant impact on informal or formal sociability.

If communities are segregated, there is little opportunity for diverse groups to interact in order to form positive social relationships of any kind that increase social cohesion. The role of interracial contact in creating intergroup social cohesion in multiethnic societies has been widely investigated in empirical studies. Briggs (2003) assesses the impact of racial exposure on social capital, particularly bridging social capital. Racial exposure describes the probability intergroup social interactions within

metropolitan areas. He finds that through exposure between groups in cities, people are more likely to have out-group connections, or racial bridging ties, and thus become more likely to "extend trust and engage in rich exchanges with particular members of out-groups" (Briggs 2003:20). Bridging ties are of particular benefit, since they connect diverse individuals, potentially opening up "new worlds" of information, resources, and opportunities (Fernandez-Kelly 1995; Johnson et al. 1999). In their study of labor force participation of females in Los Angeles, Johnson and colleagues (1999) report that the nature and frequency of bridging social connections of minority women are *more* important in explaining employment outcomes than are predominating cultural explanations. Though this study analyzes employment outcomes at the individual level, their findings suggest that *embeddedness* in valuable heterogeneous social networks provided greater access to employment and education opportunities. Specifically, among Hispanic females, race-based network diversity was significantly associated with a greater likelihood of employment, compared to their counterparts in racially homogenous networks.

Laurence (2011) finds that while diversity may decrease social capital in some areas, tolerance to diversity is more likely through exposure, and individuals with more bridging ties in diverse areas may experience fewer negative effects of diversity. In their analysis of a diverse community where people report little or no interethnic contact, Gundelach and Freitag (2014), using individual- and city-level data from Germany, found that neighborhood trust declines by approximately 60% as neighborhood diversity increases from the most homogenous to the most heterogeneous composition. However, as actual intergroup contact increases in these neighborhoods, diversity still exerted a

significant negative impact, but the magnitude of the effect was markedly reduced compared to neighborhoods reporting no contact. Similar findings were reported in a Netherlands study, by Gisjbert and colleagues (2012), who found that neighborhood-level ethnic fractionalization negatively impacted the frequency of interracial contact. Further analyses showed, however, that this relationship was rendered not significant once average income of the neighborhood was accounted for (Gisjbert et al. 2012). A study by Marschall and Stolle (2004) yielded several mixed results; neighborhood-level racial diversity positively shaped generalized trust, but this the effect varied by race and by type of interracial contact. Specifically, the impact of racial diversity at the neighborhood level positively impacted trust, but the effect was not significant for Whites compared to Blacks. Also at the neighborhood level, the percent of residents involved in a social/community group positively shaped trust, but interracial contact at the individual-level was not shown to have any significant bearing on social trust. Finally, whites adhering to an anti-integration ideology were less likely to be trusting, but Blacks' anti-integration attitudes did not significantly impact trust.

Using a measure of national and in-group belonging as an different indicators of social cohesion, Wu and colleagues (2011), in a multi-level and nationally-representative Canadian study shows that macro-level diversity is positively related to social cohesion; the same relationship is maintained utilizing a neighborhood-level entropy index as well (Wu et al. 2011). Living in a homogenous neighborhood decreases residents' sense of national belonging, but a sub-group analyses reveal that the negative impact of neighborhood racial homogeneity on sense of national belonging is phenomenon visible only among Whites. In-group belonging, or bonding social ties within one's race/ethnic

group, was negatively impacted by neighborhood racial heterogeneity among Whites. For minorities compared to Whites, Wu and colleagues (2011) found that in-group belonging was stronger regardless of neighborhood context.

Education researchers have investigated how meso-level diversity in schools and neighborhoods shapes students' racial contact preferences (Wood and Sonleitner 1996; Kurlaender and Yun 2005; Braddock and Gonzalez 2010). In a case study of the Miami-Dade Public School system, students from multiracial schools compared to racially isolated schools were found to have more positive racial attitudes and stronger desires to live/work in diverse environments as adults (Kurlaender and Yun 2005). The effects of racial isolation also impact students' racial preferences and attitudes later in life (Wood and Sonleitner 1996; Braddock and Gonzalez 2010). In a nationally representative study, Braddock and Gonzalez 2010 found that early racial isolation in Black students' neighborhoods increased perceived social distance from Whites, and preferences for same-race neighbors and schoolmates for their children later in life. Racial isolation in schools also increased perceived social distance and preferences for same-race neighbors and classmates, but the significance of these effects varied by race/ethnic group (see Figure 1 for more details). Wood and Sonleitner (1996) surveyed a sample of White adults from (N=292) who attended schools during implementation of an integration plan in Oklahoma in 1991. Whites who reported greater interracial contact as school children were less likely hold traditional anti-Black prejudicial attitudes, and less likely to adhere to racial stereotypes (Wood and Sonleitner 1996).

Meso-level diversity and economic well-being

Meso-level diversity is associated with both positive and negative effects on various measures of economic productivity. The series of studies by Sparber (2007a; 2007b; 2007c) report both positive *and* negative effects of racial heterogeneity on economic productivity, using a macro-level racial fractionalization index. Racial heterogeneity enhances the productivity of cities in terms of workers' wages yet may also incur a cost to other types of industries whose economic success is more dependent upon group effort (Sparber 2007b). If heterogeneity adversely impacts cooperation (Sparber 2007b), it matters *how* groups within organizational units interact. A series of studies by Kochan and colleagues (2003) investigated how organization/firm context, such as within-firm race/ethnic diversity, and firms' official diversity perspective, show that businesses promoting diversity as value-added (e.g., through professional development) are more economically productive than racially homogenous businesses or heterogeneous organizations that did not promote diversity as value-added (Kochan et al. 2003). It matters also how employees perceive the management of diversity in their workplaces: the more positive employees' perceptions of the organization's diversity management, the more productive these firms are. Gonzalez and Denisi (2009) report similar findings, in that if employees perceive that diversity is not valued or supported in the organization, the more likely that these employees are less productive, and the firm is more likely to receive lower returns on profit and income.

Also using the ethnic fractionalization index, Lee (2011) found a negative impact of racial/ethnic fractionalization on employment growth. Lee (2011) goes on to report, however, that the mixed results are in part a consequence of the variation in diversity

indicators employed across studies. For example, using an alternative measure of diversity, Lee's (2011) study also found that cities with larger numbers of migrants witnessed greater employment growth, as did cities with a greater foreign-born population. Sparber (2007b, 2007c) also reported mixed results using a variety of diversity measures. At the state-level, racial fractionalization had no significant impact on economic performance, as measured by gross product output per worker. At the city level, however, the same study found that a one standard deviation increase in diversity was associated with a 6% increase in workers' wages. Sparber (2007a) developed an economic model to explain how the costs of segregation should induce people to *integrate* out of segregated neighborhoods in order to reduce economic costs of exchange and communication, arguing that an analysis of the impact of diversity on economic productivity that considers segregation may explain confounding results regarding the relationship between macro-level diversity and economic productivity. Thus, if diversity influences people to integrate, this should indirectly augment economic productivity (Sparber 2007a:1)

A cost/benefit explanation of how diversity impacts economic productivity may be simplistic. Long-term segregation and concentration of poverty in majority-minority neighborhoods has a negative impact on the economic prosperity of the entire region, including both suburban and urban areas (Altshuler 1999; Charles 2001). In her analysis of the residential patterns of African Americans, Hispanics, and Asians in Los Angeles, Camille Charles (2001) stresses that in an economically prosperous city, minorities can still be very poor. In a National Research Council report summarizing research on the economic effects of segregation, Altshuler and colleagues (1999) predict that a city that

undergoes an increase in segregation would also likely see a decline in high school graduation rates, employment, and annual earnings among African Americans. For example, in an area with a 15% African American population, a 20-40% decrease over time in earnings due to segregation would cause an overall 3-6% decline in productivity for the entire metropolitan area. A study by Glaeser, Schneikman and Shleifer (1995), however, contradicts the large body of research reporting negative effects of segregation on economic growth. Glaeser and colleagues (1995) analyzed city level data from 203 cities from 1960-1990 and found that the percent non-white in a city was negatively related to city population growth. Yet they report that in cities with greater than 10% non-white population, segregation is positively related to population growth. Alesina, Baqir, and Easterly (1999) also found a negative relationship between segregation and economic growth. Utilizing ethnic fractionalization indices at the metropolitan area, county, and city level, they found that segregation is associated with *less* government spending on public goods, such as sewers, education, and the police force. They also find, however, that cities with greater fractionalization are more likely to receive transfers of funds from high levels of government.

Recently, Li and colleagues (2013) performed a panel analysis on the impact of residential segregation by race and by skill on annual per capita income, using metropolitan area data. This study is informed by the spatial mismatch hypothesis (see Kain 1992) and skill complementarity (see Benabou 1993). Skill complementarity takes into account how the success of metropolitan economies depends on both high-skilled and low-skilled labor, because modern economies use labor of all kinds (Li et al. 2013). Benabou (1993) describes how class stratification creates segregation, ultimately leading

to overall disinvestment in education and the reproduction of inequality in metropolitan areas. Higher social class individuals usually possess higher skills, and their segregation in high-skilled communities is "self-defeating" according to Benabou (1993), since it deprives the community at large from a pool of low skilled workers. While living in a better neighborhood may enhance the immediate benefits of high-skilled residents in terms of better educational facilities and other infrastructure, their low-skilled counterparts in poorer neighborhoods would not receive equitable returns on educational investments, since residents of poor neighborhoods are unable to invest in education at the same rate as high-skilled communities. Benabou (1993) posits that this perpetuates disinvestment in education in low-skilled communities, reproducing poverty and socioeconomic inequality. Drawing on Benabou's (1993) discussion of skill complementarity, Li and colleagues (2013) find that from 1980-2005, increasing polarization of high- and low-skilled neighborhoods continues to exacerbate economic inequality of entire metropolitan areas. Segregation by skill and by race creates both physical and social barriers to socioeconomic mobility. Specifically, higher initial residential segregation by race and by skill led to decreases in subsequent average rates of per capita income across metropolitan areas, and within central cities (the same analysis for suburban areas was not significant). Low-skilled communities are disproportionately at a greater distance from places of employment, creating an imbalance in the labor market that inhibits the productivity of all workers. They also found support for the spatial mismatch hypothesis, in that the percentage of Black households without cars in central cities had a negative impact on average income per capita. Li and colleagues (2013) recommend policies that bridge the spatial and social gap between neighborhoods

segregated by race and skill, to increase housing choices and access to employment for underprivileged communities.

Diversity, social cohesion, and economic prosperity

The impact of institutional diversity on community economic well-being is also linked to community social cohesion. Not only does bridging capital across groups augment social cohesion, but cross-group social ties link people to more socially diverse and economically advantageous networks. Diversity enhances the expansion of knowledge and ideas, but the social barriers created by segregation affect the processes by which innovation can spread. Segregation limits social mobility particularly by constricting social ties that could allow broader access to advantageous educational and occupational social networks (Tigges, Browne, and Green 1998). Particularly in poor minority neighborhoods, segregation limits residents' opportunity to utilize social and economic resources outside of their immediate neighborhoods, concentrating poverty and disadvantage in these neighborhoods (Wilson 1997, Wilson [1987]2012).

The social isolation produced by segregation affects all members of cities – both advantaged and disadvantaged in terms of socioeconomic status (Krivo et al. 2013). In their study of Los Angeles, Krivo and colleagues (2013) found that segregation impacts the social isolation of all neighborhoods regardless of social class. The implications of the isolation, however, vary by strata of economic status and by race/ethnicity of the neighborhood. They find that race/ethnic minorities endure added costs associated with segregation. Using an index of area advantage/disadvantage based on average levels of joblessness, professional/managerial occupations, college graduates, female headed families, secondary sector workers, and poverty, Krivo and colleagues (2013) analyzed

how the socioeconomic advantage/disadvantage of one's home area impacts the relative advantage/disadvantage of where people work, conduct other business, or participate in other major activities outside of the home. They document that whites are, on average, isolated in neighborhoods of socioeconomic privilege and live, work and engage socially in similarly advantaged areas. Additionally, individuals living in disadvantaged areas are more likely to experience the disadvantaged economic and occupational opportunities surrounding them. Racial dynamics of neighborhoods intensify the replication of advantage/disadvantage in communities, since "African Americans and Latinos conduct activities in areas that are significantly more disadvantaged than areas where whites spend time even when living in economically similar neighborhoods" (Krivo et al. 2013:159). This effect is magnified for residents living in neighborhoods with significantly greater populations of race/ethnic minorities, producing "separate worlds" of day-to-day experiences.

The segregation of poor and minority communities contributes to overall lower levels of economic growth and social isolation. Madden (2001) found that slower rates of economic growth observed for poor, majority-minority neighborhoods and racial disparities in income, poverty, and earnings are due primarily to persisting current discrimination, not lower productivity, which Madden (2001) frames as the legacy of past discrimination. The persistence of the discrimination that creates and reproduces segregated minority communities not only aggravates economic disadvantage of residents, but also reproduces further discrimination, prejudice and segregation (Massey and Denton 1993).

Up to this point, this review of the literature has separately summarized how macro-level diversity and meso-level diversity impact social cohesion and economic prosperity. These concepts, however, are interrelated. Easterly, Ritzen, and Woolcock (2006) find that social cohesion shapes the quality of institutions, which impacts economic growth. Societal divisions along class, racial, or ethnic lines create barriers that constrain social and economic policy reform designed to aid economic development. They stress that a society's inclusiveness in terms of norms and laws against discrimination and prejudice strengthen social cohesion, which they argue positively impacts the facility of implementing policy reform through more effective social institutions. Strength of institutions is a key factor in economic development outcomes (Easterly et al. 2006; Portes 2006).

Based on the above review of literature on diversity, social cohesion, and economic productivity, it is clear that the empirical evidence is mixed, and findings often vary depending on level of analysis and measurement of focal variables. Micro-level research shows positive short-term and long-term effects of diversity on individuals in terms of intergroup orientations and outgroup attitudes, yet research on human capital outcomes, such as academic achievement, are mixed. Meso-level studies find considerable support for the negative impact of segregation on social cohesion and economic productivity, though there are some inconclusive and perplexing findings that associate segregation with lower levels of racial trust and economic growth. Finally, macro-level studies are inconclusive as well. Racial fractionalization indices generally predict lower levels of social cohesion and economic productivity, across a variety of data sources. Yet evidence also exists of the positive impact of macro-level diversity on

social trust and various indicators of economic productivity. Additionally, several studies also demonstrate that social cohesion and economic productivity of a neighborhood is contingent upon the relative socioeconomic status of the neighborhood (Letki 2008; Phan 2008; Laurence 2011; Gisjbert et al. 2012; Krivo et al. 2013). This synthesis of the literature on diversity, social cohesion, and economic prosperity points to complex relationships between these concepts that merit further research. This project attempts to clarify how diversity shapes social and economic outcomes, paying particular attention to meso-level diversity. It may also help explain the relationship between macro-level diversity and social and economic outcomes, and how community socioeconomic status may moderate the relationship.

The foregoing review shows that a significant portion of research in this area is based on European and Canadian data. This project will add to the comparatively limited amount of U.S.-based studies. It is also apparent from this review that social cohesion is a multidimensional concept; diversity shapes various dimensions of social cohesion differently. This project will also use multiple indicators of social cohesion to provide a more comprehensive analysis of how certain dimensions of social cohesion, for example, may work differently than others. Finally, this project's analyses will be conducted at multiple structural levels in an effort to clarify the pathways through which diversity leads to positive or negative outcomes for social cohesion and economic productivity.

The frameworks that explain how diversity, social cohesion, and economic productivity are related theoretically have yet to be explained. The following chapter will provide this information, specifically in regard to how diversity, social cohesion, and

economic productivity and well-being are conceptualized, and the relationships between these concepts.

Figure 1. Synopsis of Reviewed Studies on Micro-, Meso-, and Macro-level Diversity Effect on Social Cohesion and Economic Productivity

Study and Data	*Independent/Control Variables*	*Dependent Variables*	*Findings*
STUDIES OF DIVERSITY EFFECTS AT THE MICRO-LEVEL			
Patchen (1982) N=2645 black students and 2834 white students from 12 high schools in Indianapolis, IN	% Black in school % Black in classes Interracial proximity (avoidance, friendly or unfriendly interaction) Racial composition in grade school Friendliness of grade school racial contact Pre-HS opinion of other-race people Socioeconomic status Segregation of nbrhd Friendliness of nbrhd contact Family racial attitudes Parents' education Sex IQ Aggressiveness Educational aspirations Religious activity Height	High school interracial behaviors: students' actions and experiences (avoidance, friendly interaction, friendship) Attitudes: how students feel when in contact with students of other race (liking other race students, feeling angry/fearful of other race students) Grades IQ Effort Standardized tests	Friendly prior contact, positive family attitudes and cooperation in extracurricular activities positively related students' positive intergroup attitudes and behaviors. The impact of interracial contact variables had a relatively small positive impact on academic performance for black and white students, net of other factors. Equality of social status had little effect on attitudes and behavior.
Hallinan and Smith (1985) N=473 elementary students	Percent black in classroom Class size Gender Grade Friendliness of student	Cross-race friend choice Same-race friend choice	For Black students, % black in classroom negatively impacts likelihood of choosing cross-race friend. For Whites, % black positively impacts likelihood of choosing cross-race friend. % Black has no impact on white or black students' choices. Friendliness positive and significant across all analyses.
Hallinan and Teixeria (1987) Longitudinal data from northern CA. N=455 (approx.. half and half Black and White students)	Classroom climate (teacher dependent) Instruction – ability grouping Class racial composition Gender	Cross-race friendship	The higher the proportion of black children in a classroom, the greater the likelihood that a white child will choose a black peer as a friend; the same was not significant for black children. Whites are more likely to form cross-race friendships in classrooms that are not ability grouped – "status leveling"

Johnson, Bienenstock, and Farrell (1999) Los Angeles Survey of Urban Inequality (N=4027)	Race/Ethnicity Cultural Background Human Capital Family Context Social embeddedness: race, education, gender, neighborhood, job bridges in social networks)	Employment (working, not working)	Among Hispanic females, having a race bridge in their social network significantly increased their likelihood of employment, compared to others in racially/ethnically homogenous networks.
Gurin, Nagda and Lopez (2004) Two studies: Experiment using two groups of college students at University of Michigan and, longitudinal data from a larger survey of Univ. of Michigan Students	Experiment group: participants in the University of Michigan Intergroup Relations Program Control group: non-participants matched by race/ethnicity, gender, in-state/out of state, campus residency Control variables: Class diversity Informal interactions among African Americans, Asian Americans, Latinos/as and Whites	(1) Ability to take another's perspective (2) Non-divisiveness of difference (3) Perception of commonalities in values across groups (4) Mutuality in learning about other groups (5) Acceptance of conflict as normal part of life (6) Interest in politics (7) Participation in campus politics (8) Commitment to post-college civic participation	Compared to non-participants, participants had positive outcomes for DVs 1-4, 6-8; lower scores for (5).
Gurin, Nagda, and Lopez (2004) Study 2 (see row above), analyzed by sub-groups of Whites, Latino/as, Asian Americans, African Americans	Experience with diversity (in classrooms, multicultural events, dialogues)	Democratic sentiments and civic participation (same as study 1)	Diversity experiences positively impact White students' perceived commonalities with other groups, N.S. for students of color. All groups show positive associations between IV and DVs 4, 7, and 8.
Killen, Crystal and Ruck (2007) Interview data from minority and majority group children	Intergroup contact composite, derived from school composition and survey items that measure frequency of interaction with different groups	Students' moral and social reasoning about racial exclusion	Results show marked differences between attitudes about diversity, intergroup contact, and social reasoning about racial exclusion between racially/ethnically homogeneous and heterogeneous schools. Students with high

grades 4 - 10 (N=685).			intergroup contact in schools were more likely to use moral reasoning to explain exclusion in sleepovers, friendships, and school dances (exclusion based on race is 'bad'), and to have more activist attitudes towards changing race-based exclusion. Students with low intergroup contact in schools were more likely to use social-conventional reasoning to explain racial exclusion ('it's okay to exclude if your friends are uncomfortable').

STUDIES OF DIVERSITY EFFECTS AT THE MESO-LEVEL			
Study and Data	*Independent/Control Variables*	*Dependent Variables*	*Findings*
Glaeser, Schneikman, and Shleifer (1995) Data on U.S. cities (N=203), 1960-1990, from County and City Data Books	Unemployment Inequality Racial composition Segregation (nonwhite-white dissimilarity; normal and weighted index – weighted by black population) Location (region of U.S.) Initial population Initial income Past growth Output composition Size Government Labor force education level	Population growth of cities Population growth of metropolitan statistical areas Per capita income growth	Initial unemployment reduces subsequent population growth and income growth; initial education levels increase subsequent pop. growth and per cap. income growth. Percent non-white n.s. for city population growth ceteris paribus. Segregation index has no effect on growth, but the weighted seg. index positively related to city growth.
Sigelman, Bledsoe, Welch and Combs (1996) Survey data from Detroit residents, 1968-9, and 1992	Current physical propinquity (suburb or inner-city, % black in nbrhd, work in city or suburb, church attendance Early-life propinquity (early nbrhd other race presence (0/1), early school other race presence (scale)) Age Gender Education SES	Casual interracial contact scale (frequency of contact in settings including job, shopping, events with children, Church attendance, sporting activities) Close interracial friendship scale (how many good friends of other race)	For Whites, % Black increases likelihood of casual interracial contact, marginally significant effect for Blacks. Church, early life propinquity, and working in suburbs significant for casual contact for Blacks. Working in city significant positive for Whites casual interracial contact. For Blacks, only greater minority composition of school positively impacts

			close contact. Significant factors for whites: % black in nbrhd (+), church (-), early life school other race presence (+).
Wood and Sonleitner (1996) N=292 White adults who were children when desegregation plans were implemented in Oklahoma, 1991	Childhood contact: living in integrated neighborhood, belonging to organizations that blacks also belonged to, attending a school that blacks also attended Age Education	Adherence to racial stereotypes Adherence to traditional anti-Black prejudice	Students who had past interracial contact were significantly less likely to support racial stereotypes and less likely to express anti-Black prejudice.
Alesina, Baqir, and Easterly (1999) County, metropolitan, and city level data from 1994 County and City Data Book	Ethnic fractionalization at city, metro area, and county level Income inequality Fraction of population that is Black, White, American Indian, Asian, or Other race # households Age Log of population Per capita income Education	Government expenditures (public goods spending) Government spending transfers ($ from higher levels of govt)	Government spending on all measures of public goods (education, sewer, roads, police, etc.) negatively associated with ethnic fractionalization, controlling for all social and demographic variables, at each analysis level. EF positively associated with more transfers.
Madden (2001) Public-Use Microdata from 1980 and 1990 U.S. Census; all variables are calculated as rates of change from 1980-1990	Proportion of African American households Proportion of central city (cc) residents Ratio of % residents live in cc to % who work in cc Racial residential segregation (dissimilarity index) Mean # persons/household Proportion female-headed households Age Households with multiple earners and no earners MSA mean household income MSA total population Employment-population ratio	Poverty rate Inner-city poverty concentration Income inequality Wage inequality	Racial residential segregation does not significantly impact poverty or inequality rates in MSAs; MSAs with greater proportions of African Americans is not significantly related to poverty rates or income inequality. MSAs with more African Americans are more segregated and have higher concentrations of inner-city poverty, but those trends are not result of lower average economic productivity of those residents.
Moody (2001) Survey of	Student heterogeneity in schools (fractionalization index)	Within-school friendship segregation (the extent to which race is salient to	Racial heterogeneity within schools and DV positively correlated. Friendship

Adolescent Health, school-level data (N=112 schools)	Race and SES correlation School tracking (proportion students in non-acad track) Friendship segregation by grade Race-based extracurricular mixing Racial busing Public school Teacher racial heterogeneity (fractionalization index) School SES (parents educ and occ) Controls: Out-of-school friends School network density South Urban/Rural School size	friend selection, same-race dyads)	segregation is highest in moderately heterogeneous schools. Friendship segregation declines at higher heterogeneity levels (curve). Schools with integrated extracurricular activities and racial mixing in school tracks, there is less friendship segregation.
Briggs (2003) 2000 Social Capital Community Benchmark Survey (SCCBS; N=29) matched with 1990 and 2000 U.S. Census data	Population size Spatial segregation by race Urbanicity Formal associations Informal socializing Network size Proportion homeowners Race Gender Age Income Education Labor force participation Marital status	Interracial bridging in friendship ties	This study finds evidence of an indirect effect of residential segregation on interracial bridging ties. For whites, living in a diverse *metro area* is positively associated with interracial bridging ties; this relationship is even strong for a *diverse neighborhood*. Same is true for Hispanics; African Americans in diverse neighborhoods show positive relationship with DV (not metro area – suggests class divide). Older whites are the most "racially insular." More diversity is generally more positive for whites – not for Blacks when control for education and social participation.
Kochan et al. (2003) Study of 4 companies to assess the effects of diversity on performance, mix of qualitative and quantitative data.	Race/ethnicity of workplace Gender Group processes: Team building, team spirit, innovation, career advancement, professional success	Team performance: Average performance appraisal ratings Average bonuses of team members	Gender diversity increased constructive group processes. Race diversity inhibited constructive group processes. Training and development-focused HR practices decreased the negative impact of race diversity. Diversity focused HR practices enhanced

All companies had strong records for enhancing diversity. Study 1: Large Information Processing Firm (26,000 + employees)			positive gender impact on group work. Race diversity was negative in an environment that was competitive, growth-oriented, and training-focused. This negative relationship was absent in units that had training in career development and diversity management.
Kochan et al. (2003) continued. Study 2: Financial services firm	Proportion of branch employees attended diversity program Race Ethnicity Gender Branches' diversity perspectives (integration-and-learning perspective)	Revenue from new sales Revenue from growing consumer portfolio Revenue from growing business portfolio Customer satisfaction Number of qualified referrals to bank services Sales productivity (total revenue from new sales relative to total-salary expense) Total performance score (bonuses)	Racial diversity positively associated with growth in business portfolios. Gender diversity N.S. Race diversity impact is larger in branches that enforced integration-and-learning perspective of diversity compared to branches that did not use this perspective, and compared to racially homogenous branches. Branches with more participants in diversity program outperformed those with less in regard to sales productivity.
Kochan et al. (2003) continued Study 3: Information Processing Firm	Team-level Gender Team- level Race (Analyses conducted for 2 groups – sales and service)	Sales team goal achievement Sale-based bonuses	Service teams: Gender and ethnic diversity not related to team-level performance. There was a negative relationship between team goal achievement and ethnic diversity. When looking at regions, however, gender diversity positively impacted cooperation within the region. In regions with little ethnic diversity, there was a stronger negative relationship between ethnic diversity and goal achievement. In regions with more ethnic diversity, those effects were reduced. More diverse teams performed better when embedded within ethnically diverse organizational units. Sales teams: similar results except for regional effects (opposite – greater diversity

			in region, poorer sales team performance).
Kochan et al. (2003) continued Study 4: Large Retail Company	Employee level demographics (vague) Race Gender U.S. Census data on community characteristics Racial diversity – odds that two employees picked at random are the same race)	Average sales at a store	Racial diversity has little effect due to two counter forces: (1) Communities with more race/ethnic diversity did not buy more from stores with similar composition in employees. (2) Stores with more whites sold more
Quillian and Campbell (2003) Survey of Adolescent Health, 1994-5, grades 7 – 12 (N=72,957)	Race White, Black, White Hispanic, Black Hispanic, Other Hispanic, Asian, Other, Multiracial Student-level controls: GPA Mother's education generational status School level racial composition	Cross-race friendships	Cross-race friendships more likely between Asian and Hispanic than white and black. Cross-race friendships increase with school racial diversity. If students are part of small racial minorities, they are more likely to select in-group friends.
Marschall and Stolle (2004) Detroit Area Study, 1975-6 U.S. Census 1970	Race Racial attitudes (anti-integration Interracial contact (positive encounter) Perception of neighborhood disorder (crime, poor schools, etc.) Nbrhd SES Racial composition of nbrhd (racial fragmentation) Neighborhood sociability (% of residents in a civic or social group and informal interactions) % Black	Generalized social trust	Neighborhood racial diversity positively impacts trust, but subgroup analyses show this is N.S. for Whites. Education level of nbrhd positive for Whites. Informal and formal social interaction positive for Blacks. Interracial contact at individual level n.s. Negative racial attitudes negative for whites, n.s. for Blacks.
Kurlaender and Yun (2005) Case study of Miami-Dade County Schools, administers Diversity Assessment questionnaire to 10,844 students in	School racial composition (multi-racial, Black-Hispanic, racially isolated) Free/reduced lunch % English proficient % in special education Student race Gender Immigrant status	Desire to live/work in diverse settings Citizenship and democratic attitudes (improve intergroup relations, comfort in debating social/political issues, Schools' support for educational attainment	Students in multiracial environments have more positive attitudes than students in racially isolated schools. Students from more diverse schools are more interested in living/working in diverse environment as adults. Students in diverse

2000.	Language		(multiracial) schools (1) are more comfortable in debate, and (2) perceive more support for college, but minority students perceive less support to take AP/Honors classes than white students.
Putnam (2007) Social Capital Community Benchmark Survey (2000)	Diversity (Census tract-level Herfindahl index at community-level)	Social Capital Civic Engagement Trust in government Trust towards other races Trust towards neighbors Ethnocentric trust (trust of own group – trust of other group)	As ethnic homogeneity increases, interracial trust, intraracial trust, and trust of neighbors increase. Trust is relatively high in homogenous communities and relatively low in heterogeneous communities. Ethnic homogeneity has no significant impact on ethnocentric trust. More diverse communities associated with less civic engagement, lower confidence in government
Letki (2008) 2001 Citizenship Survey, England and Wales Multilevel structural equation model	Racial fragmentation index Neighborhood SES (index of multiple deprivation: income, health, disability, environment, employment, education, housing, geographical access to services, skills and training) Age Social class Education	Neighborhood social capital (12 indicators/4 dimensions—*Nbhrd attitudes*: enjoy living in nbrhd, nbrs look out for each other, know ppl. in nbrhd, nbrs can be trusted, wallet returned; *Informal sociability*: friends or nbrs over, visit friends or nrbs, go out with friends or nbrs; *Formal socialibility*: organizational involvement, help orgs., *Individual help:* help a friend/nbr, receive unpaid help from org. or nbr)	All 4 dimensions of DV are interrelated. Low neighborhood status negatively impacts all dimensions. Informal sociability positively impacts attitudes towards nbrs. Nbrhd SES negatively related to all 4 dimensions of DV; Racial diversity only negatively impacts nbhd attitudes, has no effect on sociability. Individual level determinants vary in strength and significance.
Phan (2008) 2002 Ethnic Diversity Survey 2001 Census profiles (multilevel model: N=31613 individuals nested in 122 Canadian	City-level economic inequality (Gini index) Racial fragmentation index by city Racial fragmentation for each census tract Resident mobility Socioeconomic disadvantage index Experiences of negative	Generalized social trust	City-level findings show positive rel. between racial diversity and trust, negative rel. between income inequality and trust. Negative intergroup relations experiences negatively impacts trust. City-level trust is conditioned by individual-

cities, 4,421 census tracts)	intergroup contact If most friends are same ancestry (1) or otherwise (0) Residential segregation (>30% same ethnic bkgd) Sex Age Education Household income Parents' highest education Visible minority status Individual experiences of crime Discrimination Group vulnerability In-group friendship ties		level experiences with intergroup relations. In 3-level model (incl. neighborhood context), racial diversity has no impact on trust, but mobility and socioeconomic disadvantage negatively impact trust.
Stolle, Soroka and Johnston (2008) Cross-national comparison study. U.S. data: Citizenship, Involvement, Democracy Survey 2005 Canada: Equality, Security and Community Survey 2002-3 Both merged with 2000 U.S. and 2001 Canadian censuses	Minority status (if respondent (R) self-reports as minority) Ethnic diversity of context (proportion of visible minorities in each respondent's nbhd) Minority*ethnic diversity (to test if context have different effects by minority status) Racial diversity of nbrs Frequency of interactions with nbrs Controls: Gender Age Education Religion Immigration Status French language (Canadian sample) Proportion completed H.S. Median household income	Interpersonal trust 0-3 (a unique experiential measure using a question about a wallet being returned: "If you lost a wallet or purse with $200, how likely is it to be returned with the money if found by…)	In U.S and Canada samples, minorities trust less than non-minorities. Ethnic diversity negatively related to trust. Interaction term (+) and sig. only in Canada. In the U.S., minority respondents have lower levels of trust on average. Whites who talk to their neighbors have higher levels of trust, yet this still decreases as diversity increases. Those who do not talk with neighbors experience neg. effect of diversity on trust, those in diverse nbrhds who talk with nbrs, trust positively impacted. No difference in trust between talkers and non-talkers in homogenous nbrhds.
Gonzalez and Denisi (2009) 26 organizational units, part of a restaurant chain (survey of N=271	Organizational diversity climate (DC; perceptions on whether org. is fair towards all groups) Individual organizational attachment Demographic	Firm effectiveness (employee productivity, return on profit, return on income	Positive DC associated with higher employee productivity and higher return on income; adverse DC associated with lower on the same.

employees in 26 restaurants). Archival data from corporate offices	composition Sales Income Wage Tenure Position level Size of organization		
Braddock and Gonzalez (2010) National Longitudinal Survey of Freshmen 1999, subgroup analyses of Asians, Blacks, Latinos, Whites (college students)	Early neighborhood social isolation Early high school social isolation High school sector High school region Gender Family income	(1) Social distance (2) Preferences for same-race neighbors (3) Preferences for same-race school mates for children	Neighborhood isolation positively related to social distance (DV1) for Asians and Blacks; to DV2 for Blacks and Asians, and for DV3 for Blacks. School isolation positively related to DV1 for Blacks, Asians, and Latinos; to DV2 for Asians, Latinos, and Whites; to DV3 for all groups.
Laurence (2011) 2005 UK Citizenship Survey 2001 UK Census 2004 Indices of Deprivation. Unit of analysis: "Middle Super Output areas" to measure indiv locality (comparable to MSA in the US Census)	Racial Fractionalization index Community-level Diversity (typology based on proportional size, number and type of ethnic groups in an area – 6 types ordered by decreasing % white) Index of SES deprivation Bridging ties Indiv. level controls: Occupation Education Employment Income Residential status Length of residence in nbhd Nativity	Social Cohesion, 2 dimensions: social capital: norms of reciprocity and trustworthiness, and interethnic relations: respect and tolerance for ethnic differences	Racial fract., and index of deprivation negatively impact social capital. Racial fract. negatively impact interethnic relations. Communities with greater proportions of ethnic groups compared to mainly white communities negatively associated social capital, positively impact interethnic relations. Bridging ties positively related to trust and tolerance to diversity. Diversity decreases trust generally, but as heterogeneity of neighborhood increases, people with bridging ties show slower decreases in trust than people without them.
Portes and Vickstrom (2011) Kids Count Index Social Capital Community Benchmark Survey	Social Capital Index (SCI) Economic inequality Child welfare Single parenthood Economic inequality Poverty General population health Academic achievement % college graduates % Black population Region	Various causal relationships between the variables listed to the left are examined in this study.	1. Social capital has a positive impact on child welfare and heath, and also is negatively related to single parenthood, inequality, and poverty. The reverse of the above relationships is also true. 2. Lagged economic inequality reveals a spurious (+) relationship between SCI and academic achievement and spurious

	Percent Confederate state % Scandinavian origin		(-) relationship between SCI and poverty. 3. Economic inequality (year 1969) and education account for 22% of variance in SCI (year 2000), but when model includes percent college graduates, region, confederate state, and % Scand. pop, economic inequality is N.S. and strongest predictor is % Scandinavian (R^2=.72)
Uslaner (2011) USA: Social Capital Benchmark Survey and U.S. Census data UK: 2007 Citizenship Survey	*US:* Diversity index of cities Racial segregation in cities (dissimilarity) Diversity of friendship networks Interactions between seg*group diversity; seg*friendship diversity Education, age, % black in city, avg. educ in city; African American *UK:* minority share of community (diversity index) R's estimate of race/ethnicity of people living in walking distance (segregation proxy) Various indicators of personal values that shape trust Immigrant status	Social trust	USA study: for Whites, diversity drives down trust. For Blacks, it has little effect. Diversity of friends positively impacts trust in lesser-segregated cities for Whites and Blacks. UK: having diverse friends in integrated neighborhoods increases trust for all groups; in low segregated nbrhds, having diverse close friends increases trust for whites, nonwhites, East Asians and Africans, but decreases it for Muslims. In high segregated nbrhds, trust negatively related to diverse friends for Africans
Rothwell (2011) 2000 GSS, linked to U.S. Census	Racial fractionalization index Segregation index (weighted average of isolation index from U.S. Census) Multigroup entropy ("unevenness") Religious adherence Religious diversity Religious segregation Political affiliation segregation Historical factors – Long term determinants of diversity	Trust Volunteering	Racial fractionalization n.s. for trust or volunteering. Segregation and entropy lower trust in full model with religious and political factors, and in full model with historical factors.

	# of manuf. jobs in 1920 # of census places in 2000 avg. # of slaves in MSA's state from 1840-1860 distance of MSA from MX median age of housing stock (see p. 2119) Duration of residence in MSA (to account for self-selection into cities)		
Wu, Hou and Schimmele (2011) 2001 Canadian Census and Statistics Canada 2002 Ethnic Diversity Survey	Neighborhood entropy index Race/Ethnic group membership Metropolitan location Age Sex Marital status Education Neighborhood controls: Family income inequality Immigrant status (length of resident also) Low-income rate % with university degree % nonmovers population density % age >=65 Homeownership	National belonging In-group belonging	At the national level, racial diversity positively related to national belonging and in-group belonging. Greater racial diversity in nbhd increases sense of national belonging. Living in a homogenous nbhd decreases sense of national belonging. Subgroup analysis shows that whites account for this finding. A diverse neighborhood is also associated with *weaker* in-group belonging among Whites (the national sense of belonging may be more important). Minorities compared to whites have a stronger sense of in-group belonging regardless of neighborhood context. Some controls notable: smaller metropolitan areas have stronger sense of national belonging; large areas associated with in-group belonging; low income nbrhds associated with less national belonging
Gisjbert, van der Meer and Dagevos (2012) Living Conditions of Urban Ethnic Minorities Database, Netherlands, 2004-2005	Ethnic fractionalization index in neighborhoods Individual Controls: Ethnic origin Generational status Linguistic ability Gender Age Education level Family composition	Social cohesion Trust Informal help Voluntary work Frequency of neighborhood contacts	In models with all controls, findings show that neighborhood diversity negatively impacts frequency of nbrhd contact. Relationship between trust nbrhd contact and volunteering are negative and significant in a bivariate test, but

Primary ethnic groups in this country are Turks, Moroccans, Surinamese, Antilleans, and other non-Western minorities, compared to native Dutch. Multi-level analysis	Occupation Subjective health Church/Mosque attendance Contextual controls: Average income for nbhd and city (Socioeconomic disadvantage) Population density Residential mobility Crime		significance disappears with indiv and contextual controls added. Average income positively impacts trust and voluntary work in simple bivariate model, sig. disappears with multivariate.
Krivo, Washington, Peterson, and Kwan (2013) Los Angeles Family and Neighborhood Survey 2000-2001	Neighborhood disadvantage (index of extent of joblessness, occupation status, education, female headed families, poverty) Race/ethnic composition of nbhd Race/Ethnicity Immigrant status Years in US Education Car ownership Male Age Children present No. of non-home activities Mean distance from home	Mean disadvantage for non-home activities	Neighborhood disadvantaged associated with increases in DV; the higher proportion minority the nbhd associated with increases in mean disadvantage for non-home activities. Higher concentrations of Latinos associated with higher disadvantage in non-home activities.
Li, Campbell, and Fernandez (2013) Panel data of U.S. metropolitan areas 1980-2000, from the U.S. Census, Regional Economic Information System, Census of Population and Housing, America Votes, and other sources	Residential segregation by race (Black/White dissimilarity) Residential segregation by skill (High/Low Skilled dissimilarity) City/Suburb per capita income ratio Metropolitan size % Black MA population Industrial structure Govt. structure Political homogeneity (% Dem, % Repub) Education Annual pop. growth rate % Black households without cars % workers dependent upon public transit	Average annual rate of per capital income growth	Higher initial racial residential segregation associated with slower subsequent growth across MAs, cities, and suburbs, 1980-2005. Skill segregation negatively impacts growth in MAs and cities, n.s. for suburbs 1980-2005. % of Blacks without cars negatively impacts growth in cities, finding support for spatial mismatch 2000-2005. Direction and significance of controls vary.

Gundelach and Freitag (2014) Individual-level data from a prosperous German city, Konstanz (N=692)	Ethnic diversity of neighborhood "Actual" interethnic contact: diversity of ego-centered friendship networks, and frequency of home visits from immigrants/natives Sex Age Education Income Nationality Associational Membership Life Satisfaction Social assistance Purchasing power Nbrhd. age structure Nbrhd population size	Social trust (wallet question)	Neighborhood diversity is negatively related to social trust in the neighborhood, yet *actual* interethnic contact reduces the negative relationship. For immigrants, increasing diversity not associated with trust.

STUDIES OF DIVERSITY EFFECTS AT THE MACRO-LEVEL			
Study and Data	*Independent/Control Variables*	*Dependent Variables*	*Findings*
Alesina and La Ferrara (2002) General Social Survey (GSS) 1974-94	Racial/ethnic fragmentation index Attitudes towards racial mixing Ethnic origins Religious beliefs Recent traumatic experience Income inequality Crime index Median household income Size of place Confidence in social institutions Typical individual-level demographic factors Various geographic mobility indicators	Social Trust	Racial fragmentation negatively associated with social trust; N.S. among Blacks-only analysis, indicating decrease in trust in racially heterogeneous communities accounted for by whites. Racial fragmentation negative effect on trust is stronger for individuals opposed to racial mixing. Income and education positively correlated with trust. Inequality and racial fragmentation are highly (+) correlated. Other controls and independent variables affect direction and significance of outcomes.
Costa and Kahn (2003) Current Population Survey 1974 and 1989, the 1975 and 1998 DDB Lifestyle Survey, the 1952 and 1972 American National Election Survey, and the	Metro area racial fragmentation index Metro area birthplace fragmentation Income inequality (Gini coefficient of weekly wages for full-time full-year men ages 21-64) Age Gender	Volunteering Membership in non-church organizations and other organizations Trust	Birthplace fragmentation negatively associated with all DVs. Racial fragmentation negatively associated with volunteering. Over time, some declines in DVs are partially explained by age, gender, and racial fragmentation: 32% of decline in trust for men and women due to racial

1974-1998 GSS.			heterogeneity.
Hero (2003) Current Population Survey, 1990, 1992, 1994, 1996	Minority diversity by state (% black, Latino, Asian, in 1990) Black poverty rates 1990 Social capital index	"Racial civic equality" Ratio of black to white voter registration and voter turnout (within states) Rates of white and black registration and turnout (across states) Minority/white graduation and suspension ratios, incarceration ratios, and infant mortality	Within states, Social capital negatively related to racial civic equality. Controlling for a state's % black population and poverty, social capital negatively related to the civic equality for blacks (but n.s.). Social capital is positively related to white voter turnout. Across states, social capital N.S. for black voter reg., positively related to black voter turnout in 1996. Social capital impacts other DVs positively, except for infant mortality (neg).
Grafton, Kompas and Owen (2004) Country-level data from Encyclopedia Britannica (2000), numbers from other studies	Social barriers to communication (ethnic, linguistic, religious fractionalization) Social infrastructure Rich/poor countries Population density	Economic productivity (output per worker) Per capita consumption Average years of schooling in total population	Ethnic and language fractionalization negatively impacts productivity and years of schooling. Ethnic and language and religious fractionalization neg. impact output per worker.
Ottaviano and Peri (2004) U.S. Census data, MSA level 1971 and 1991 County and City Data Book	Cultural diversity (fragmentation index by country of birth) Average years of schooling Diversity among foreign-born Share of foreign born	Average wage of White US-born males age 40-50 Average income of white US-born males Average land rent in MSA by whites	US-born workers in cities with greater cultural diversity show higher average wages and higher rent prices compared to counterparts in less diverse cities.
Delhey and Newton (2005) World Values Survey (N=60 countries)	Ethnic fractionalizations Income inequality	Generalized trust	Ethnic fractionalization negatively associated with trust; income inequality negatively associated with trust; education and wealth positively associated with trust. Ethnic fractionalization negative and significant across models.
Ottaviano and Peri (2005) Census data from 1970 – 1990, from 160 MSAs	Cultural diversity across U.S. cities– Variety of native languages spoken by city residents Education Race English ability Duration of stay in U.S.	Wages Employment density	Higher linguistic diversity is associated with higher wages and employment density. This effect is stronger for higher education workers and white workers. Also, they find that non-native workers who are "better assimilated" are most beneficial to productivity.

Sparber (2007b) 1980, 1990, and 2000 U.S. Census data (N=48 states, N=103 metropolitan areas)	Racial Fractionalization index Educational attainment Employment density Unemployment rate Non-White share of employment	Economic productivity Cities: workers' wages State: gross state output per worker	Diversity enhances productivity of cities. A one S.D. increase in in diversity in cities is associated with at 6.0% increase in economic productivity (workers' wages). Relationships not significant at state level.
Sparber (2007c) U.S. Census data from 1980-2000, individual data aggregated to state-industry level for each Census year	Racial Fractionalization index Wage Type of industry Industry characteristics (making decisions/solving problems, creative thinking, customer service, team/group work)	Net productivity across industries (average workers' wages)	Diversity positively associated with wages for 21 industry types; no significant negative findings. Industries that involve creative decision-making and customer service receive productivity increases from diversity; industries that require "group efforts" suffer losses.

CHAPTER 3

THEORETICAL BACKGROUND

This chapter describes the theoretical framework guiding the present study, which focuses on both meso- or institutional (neighborhoods, schools) and macro- (metropolitan areas) level diversity effects and their impact on social cohesion and economic productivity. As noted earlier, this dissertation, guided by previous theory and empirical research, examines three broad research questions: (1) Does meso (institutional) diversity, net of macro (metropolitan) diversity affect community social cohesion and economic productivity?; (2) Is the effect of macro (metropolitan) diversity on community social cohesion and economic productivity mediated by meso (institutional) diversity; (3) Is the effect of macro (metropolitan) diversity on community social cohesion and economic productivity conditional on meso (institutional) diversity or economic inequality?

Figure 2 displays a conceptual model linking diversity, social cohesion, and economic well-being, and the potential mediating role that meso-level diversity plays in this relationship. Specifically, macro or metropolitan diversity is expected to directly impact both community social cohesion and economic productivity. Variations in meso or institutional (neighborhoods and schools) diversity across communities are expected to mediate the relationship between metropolitan diversity and social cohesion and economic productivity. Additionally, meso or institutional diversity is also expected to directly impact both community social cohesion and economic productivity, as well as mediate (and moderate) the effect of macro-level diversity.

The following discussion describes the theoretical perspectives and research literatures that contribute to our understanding of these connections and their expected outcomes. I draw on skill complementarity studies to describe how institutional diversity (i.e., levels of race/ethnic desegregation across schools and neighborhoods) helps to explain the relationship between metropolitan diversity (i.e., levels and distributions of race/ethnic groups within communities) and economic well-being and productivity, and how residential segregation by skill may indicate lower economic well-being across communities. I employ theories of intergroup relations to describe how racial and ethnic isolation in important institutional (school and neighborhood) contexts in diverse communities has the potential to negatively impact social cohesion.

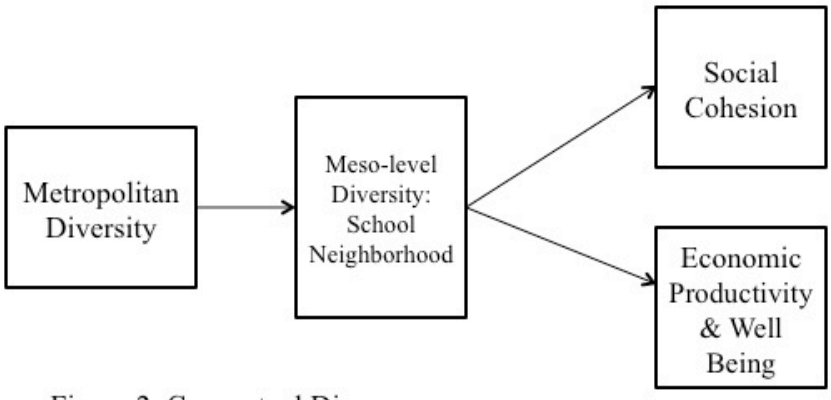

Figure 2. Conceptual Diagram

Segregation: Skill Complementarity

Economic growth and equity in metropolitan areas depends on access to employment opportunities, and especially within poor segregated communities, access to financially sustainable jobs can be difficult. The connection between residential segregation and access to jobs in metropolitan areas impacts economic growth for entire localities. Metropolitan economic growth depends on both high- and low-skilled labor

(Li et al. 2013). Technological advancement has led to an increase in the demand for high-skilled labor, which has widened the gap between high-skilled and low-skilled labor opportunities, increasing wage inequality (Krusell, Ohanian, Ríos-Rull et al. 1997; Autor, Katz, and Kearney 2006). Within metropolitan communities, more affluent areas with higher proportions of well-paid, high skilled labor opportunities experience economic dynamism, while lower income, racially isolated minority communities are limited to low-skill labor opportunities and experience economic stagnancy.

The creation and maintenance of economic inequality between suburban and urban areas within metropolitan regions may be partly due to a spatial mismatch between place of residence and place of work for people in segregated communities. The main premise of the spatial mismatch hypothesis is that residential segregation reduces job opportunities for poor urban minorities. The outmigration of jobs from inner city areas creates a spatial barrier to employment; job seekers in poor minority communities are faced with the additional burden of inadequate public transportation or lack of access to a vehicle to travel to job opportunities in suburban areas (Kain 1968; Wilson 1987; Kain 1992; Weinberg 2000; Stoll and Covington 2012). Suburban-urban inequality and the concentration of poverty in city centers has been attributed to lack of jobs available to residents in these areas as result of housing discrimination, particularly for African Americans (Kain 1992).

The dislocation between residence and employment in poor racially isolated communities likely contributes to the gap between high- and low-skill jobs since most job opportunities are located in more affluent suburbs. Yet, in communities with greater concentrations of higher skilled and better paying jobs, the demand for low-skilled, time-

intensive service-based labor increases. Mazzolari and Ragusa (2007) show that the increased productivity in the high skilled sector demand more low-skilled, time intensive labor, such as in-home food preparation and cleaning services. However, as a consequence of residential segregation, high-skill communities are deprived of lower-skilled labor, and low-skill communities are absent of high paying job opportunities. Benabou (1993) argues that as a consequence of a lack of high-skilled jobs coupled with decreased educational opportunities, residents in low-skill communities face incentives to disinvest in education, further reproducing a labor market imbalance not only in the location of high- and low-skilled jobs, but also in the educational qualifications of the labor force. Higher levels of educational attainment enhance the overall productivity and prosperity of metropolitan areas by making more workers more employable, in turn, increasing the demand for complimentary lower-skilled/less educated workers, as well as fostering entrepreneurship (Rothwell 2012). Gaps in the skill and education level of metropolitan workforces stagnate economic growth across labor sectors. Such imbalance in labor markets slows economic growth for entire metropolitan areas (Li et al. 2013).

Segregation and Social Cohesion

Both residential and school segregation may contribute to lower social cohesion across U.S. communities (Uslaner 2010). Since social cohesion occurs amidst the formal and informal activities that happen within communities, it matters where and under what circumstances social interactions take place. Whether diversity is viewed as a "good" or a "bad" thing for social cohesion depends upon two different theoretical perspectives about how people interact with each other (Uslaner 2010). Below, I describe how intergroup

contact theory and the racial threat hypothesis may help explain how institutional context shapes intergroup relations in diverse metropolitan contexts.

Intergroup contact theory

Achieving positive intergroup social cohesion in a diverse society requires a degree a non-hostile intergroup dynamics. Intergroup contact theory, or the "contact hypothesis," specifies the ideal or necessary conditions that must be present in order for intergroup contact to lead to positive intergroup attitudes and reductions in race/ethnic prejudice (Allport 1954; Pettigrew 2000; Pettigrew 2008). Allport ([1954]1958) developed this theory in the 1950s in order to better understand the formation and maintenance of prejudice and discrimination. In the classic work *The Nature of Prejudice,* he examined the social psychological and structural roots of prejudice, and made recommendations for overcoming it. Allport asserted that intergroup contact, under optimal conditions, could work to destroy stereotypes and lead to the development of positive interracial attitudes. The optimal conditions include equal status between groups within the situation, intergroup cooperation, common goals, and supportive structural arrangements such as the law, custom, or authorities (Pettigrew 1998). From this perspective, it is not mere contact or exposure itself, but the nature and context of the contact that shapes group relations.

In general, settings segregated by race/ethnicity limit the possibility for intergroup social interaction. Thus, segregation acts as a barrier to implementing the structural conditions necessary for positive group relations. Social isolation "…[perpetuates] the myth that members of different racial groups have no shared interests and thus little basis for common understanding" (Rudolph and Popp 2010:78). In contrast, integrated

environments, especially those in which intergroup interaction and equal status between all groups is supported and encouraged, can foster the type of positive social interactions between people of various race/ethnic backgrounds to cultivate the intergroup ties that reduce prejudice. Allport points to "…the desirability of starting integrated education with younger children" ([1954]1958:vi); younger children are more "free" from ingrained racial bias or prejudice. Learning experiences in integrated schools allow for positive intergroup contact. Students in integrated contexts are in a better position to develop positive attitudes and social ties between peers of different race/ethnic groups (Slavin and Cooper 1999; Slavin, Hurley, and Chamberlain 2003; Pettigrew and Tropp 2006).

Racial threat hypothesis

The "racial threat" hypothesis posits that higher levels of race/ethnic diversity cause majority group members to view the presence of minority race/ethnic groups as a threat to their own social and economic well-being (Blalock 1967; Levine and Campbell 1972). This perspective assumes a subordinate and superordinate relationship between groups within a locality, predicting that majority or superordinate groups (e.g., whites) will display hostility towards minority groups due to increased physical proximity and perception of threat to economic and social privilege (Rudolph and Popp 2010). Some research shows that the mere presence of significant proportions of minorities in a locality can increase racial inequality, racial hostility, whites' prejudiced attitudes against minorities, and residential and school segregation (see review in Taylor 1998). Taylor (1998) found that a 10% increase in the Black population of a metropolitan area is associated with a significant increase in Whites' anti-Black prejudice, net of Whites' perceived political or economic threat from Blacks, and net of residential segregation:

"local concentrations of African Americans evoke negative reactions from white residents, [which is] not diminished in localities where residential segregation is extreme" (Taylor 1998:531). The impact of the numerical presence of minority populations on Whites' attitudes was found significant only for Blacks; results for Latinos and Asian Americans were not significant.

On the other hand, Allport ([1954]1958) argues that diversity would lead to more hostile group relations only if individuals are not able to have positive social experiences with outgroup members, or when the institutional contexts in which diverse groups coexist are unsupportive of positive group relations and reproduce hierarchical race/ethnic group organization. Oliver and Wong (2003) find that outgroup prejudice and negative stereotypes vary by the racial composition of neighborhoods; among Blacks, Latinos, and Whites, people who live in a neighborhood comprised of predominantly same-race/ethnicity neighbors are more likely to hold greater outgroup prejudice and negative stereotypes; those who live in more integrated neighborhoods (with greater proportions of outgroups) hold more positive outgroup attitudes. While either outcome is possible (intergroup contact reducing prejudice, intergroup contact increasing prejudice), Pettigrew and Tropp's (2006) meta-analysis of studies testing the conflict and contact hypotheses found that the typically stronger path is that of intergroup contact reducing prejudice.

Neighborhood-level socioeconomic status is another important correlate of intergroup relations that is often under-analyzed in many studies that focus on out-group size as a determinant of racial attitudes (Oliver and Wong 2003), and may help explain the dynamics of racial prejudice presented in the racial threat hypothesis (Oliver and

Mendelberg 2000). Based on the racial composition of zip code areas, Oliver and Mendelberg (2000) find little support for the impact of the numerical presence of Blacks on Whites' prejudice attitudes when simultaneously accounting for the impact of neighborhood status. Rather, they find that the relative average education level of residents is negatively associated with Whites' anti-Black prejudice and stereotypes, as well as anti-Semitism and authoritarianism. They argue that anti-Black prejudice and racism stem more from a psychological response to a stressful environment, since their analyses reveal that Whites in low-status neighborhoods tend to be more hostile to out-groups in general.

Social Cohesion in a Diverse Society

Social trust is widely considered as an important component of social solidarity and intergroup relations (e.g., Marschall and Stolle 2004) and sense of community and solidarity among citizens (e.g., Letki 2008; Phan 2008). Social trust reflects an orientation towards people and society as a whole, referring to the general belief that another person will not do you harm (Kramer 1999). In recent years, social trust has emerged as a component of social capital (Putnam 1993; Misztal 1996; Heyneman 2000). Trust enables cooperation, facilitates bridging social capital (Putnam 1993), and "above all, trust, by keeping our mind open to all evidence, secures communication and dialogue" (Misztal 1996:10). In other words, social trust is a mechanism that encourages social interactions of mutual reciprocity based on shared understandings, which in turn contribute to human cooperation and societal well-being (Misztal 1996; Heyneman 2000). Trust is not a spontaneous phenomenon, but rather is an interpersonal phenomenon and generated through social interactions. The nature and quality of social

interactions that generate trust are contingent upon the contextual conditions in which they take place and develop.

Govier (1997) identified two main forms of trust, generalized trust and particularized trust. Generalized trust is diffuse, in reference to no one in particular. Generalized trust presumes that others share our beliefs, and is considerably undermined by prejudice and discrimination; particularized trust is in specific reference to group boundaries and is based on familiarity (Phan 2008). The present study examines interracial trust, a variant of particularized trust, as one indicator of social cohesion. Interracial trust has the potential to "…help individuals overcome racial prejudice and bridge racial gaps" (Rudolph and Popp 2010:74), while generalized trust does not hone in on the type of social connections especially important to cultivating social cohesion across race/ethnic groups in society.

Racial bridging ties

Researchers have used intragroup social cohesion to explain the economic successes of some tight-knit ethnic enclaves (Portes and Manning 1986; Zhou 1992). Intergroup cohesion, or crosscutting ties across groups, however, have been shown to play a unique and crucial role in expanding opportunities for socioeconomic advancement, including educational and occupational advancement among diverse demographic groups (Laumann 1972; Granovetter 1973; Portes 1998; Putnam 2000; Briggs 2003).

Social cohesion in multiethnic societies necessitates a degree of racial bridging ties to open up homogenous social networks. Briggs (2003) writes

> Bridging ties are particularly crucial when they bind *diverse* societies, expanding social and civic identities, opening up insular communities of

> interest, containing ethnic and other intergroup conflicts, and reducing inter-group status inequalities, for example, by widening access to valuable information and conferring endorsements across higher and lower status group lines (p. 2).

Intergroup contact theory assumes that the possibility of positive intergroup relations is largely contingent upon the availability of *opportunities* to cultivate such ties, which is most likely to happen within diverse social institutions. Thus, it is expected that meso-level diversity will be a significant factor in shaping the degree of racial trust and racial bridging ties as indicators of overall social cohesion in diverse communities.

Next, in Chapter 4, I provide a detailed description of the data set that will be analyzed, followed by the description of the operationalization of each concept. Then I discuss the important spatial issues that come up in analyses of neighborhoods and metropolitan areas. Lastly, I outline the analytical steps taken to assess the impact of meso-level diversity on social cohesion and economic productivity and well-being.

CHAPTER 4

DATA AND METHODOLOGY

To assess the relationship between metropolitan diversity, meso-level diversity, and social cohesion and economic productivity, this project analyzes a unique data set compiled from several sources. This chapter describes the data, variables, and analytical techniques.

Construction of the Data Set

I compiled a data set from several sources, including the U.S. Census, the American Communities Project, and the Social Capital Community Benchmark Survey (SCCBS), the Bureau of Economic Analysis (BEA, www.bea.gov) and the GeoDa Center for Geospatial Analysis and Computation. A description of each data source and indicators drawn from each is presented in the appendix. The core data file is based on the communities sampled in the SCCBS. The objective of the SCCBS was to provide measures of varying levels of social capital across U.S. communities and various sociodemographic correlates, such as education and occupation. This project was also targeted at assessing how social capital impacts individuals' social trust, voting behaviors, and involvement in community organizations (Roper Center 2000). Basing the data set on these communities is an appropriate choice because this survey includes individual-level attitudes and behaviors towards others, which can be aggregated to the societal level in order to construct the social cohesion concept. Measures from other sources are then linked to these communities using geographic identifiers provided in the SCCBS documentation. The geography of the SCCBS communities surveyed was

decided upon by local philanthropic organizations that helped fund the SCCBS data collection, and do not match identically to U.S. Census geographies. Any non-metropolitan areas represented in the SCCBS were excluded. The criteria for a match between a SCCBS community and a metropolitan area are 1) if the SCCBS sample includes one or more major cities and 2) over half the county areas in the corresponding metropolitan area (Briggs 2003). Additionally, if the SCCBS community is a single city (e.g., Seattle, Boston, or Grand Rapids, MI) I used U.S. Census central city data. This matching procedure was taken directly from Briggs (2003), who also linked SCCBS data to Census geographies. The final sample size is 29 communities. Census data were downloaded from the American FactFinder website (http://factfinder2.census.gov). Table B in the Appendix includes specific details on the geography that determined how each SCCBS community was merged with Census data.

Dependent Variables

Social Cohesion

Social cohesion is a macro-level phenomenon having to do with the degree of togetherness or collectiveness that exists in a community. Social cohesion has been measured in a variety of ways, including: feelings of mutual trust between individuals (Letki 2008; Phan 2008; Stolle et al. 2008); a sense of community and national belonging (Wu et al. 2011); and frequency of volunteering in community organizations (Gisjberts et al. 2012). As previously noted, social cohesion is a multidimensional concept involving the aggregation of individuals' attitudes and behaviors that reflect trust and cooperation with others, along with a sense of common identity or belonging to their society (Chan et al. 2006). The present study utilizes several indicators from the SCCBS

that align with the dimensions of social cohesion put forth by Chan and colleagues (2006). This definition also emphasizes two *directions* of social cohesion – horizontal interactions, which refer to interactions between society members, and vertical interactions, which refer to the relationship between citizens and the state. The measures employed here capture both individuals' attitudes and behaviors towards other racial groups and their attitudes towards their community in the horizontal and vertical direction. These measures are displayed in Figure 4.

Figure 3. Dimensions of Social Cohesion

	Behaviors	Attitudes
Horizontal	Racial bridging – friendships Informal social interactions	Interracial trust General social trust Neighbors give sense of belonging
Vertical	Organizational activism Racial bridging – group involvement	Trust in Local Government Trust in National Government City gives sense of belonging

To capture the horizontal attitudinal dimensions of social cohesion, I examine measures of interracial trust and generalized social trust. The SCCBS asks respondents how much they trust particular race/ethnic groups, excluding their own, including Asians, Whites, Blacks, and Hispanics. From these items, an index of interracial trust was constructed. Responses range from trust them a lot, trust them some, trust them only a little, to trust them not at all. These responses were summed and coded so that higher values indicate higher levels of interracial trust. General social trust is an index that measures respondents' trust towards neighbors, coworkers, clerks, co-religionists, cops, and "most people," and is coded similarly so that higher values indicate greater trust.

Horizontal behaviors are captured through aggregate measures of informal social interactions and the degree of racial bridging ties in respondents' personal friendships.

Informal social interactions are represented by an index of the frequency of respondents' having friends visit home, visiting with relatives, socializing with co-workers outside of work, hanging out with friends in public places, or playing cards and board games. Respondents' friendship networks is one of the present study's indicators of racial bridging ties. This measure is based on a series of SCCBS items that prompt respondents to state the race and ethnicity of their personal friends. Diverse social networks are crucial to facilitating access to education and labor market opportunities, chances for upward social mobility, and general well-being. Diverse social networks are not only a potential source for increased education and labor market opportunities; diverse social networks could also potentially be an indicator of lower levels of race/ethnic prejudice and discrimination and more positive intergroup relations. Following Briggs (2003), the diversity of friends index is represented by the total number of different-race/ethnic friends reported by SCCBS respondents, excluding friends of their own race/ethnicity. Responses to the following survey item were summed and coded so that higher values indicate more racially and ethnically diverse friendship networks: "Thinking now about everyone that you would count as a PERSONAL FRIEND, not just your closest friends—do you have a personal friend who is…" Following this prompt are the race/ethnic group choices, Black or African American, Latino or Hispanic, Asian, and White. This measure may underestimate the number of bridging ties in respondents' social networks since friendships (compared to more casual acquaintances) are less likely to reside in one's immediate neighborhood and likely contain fewer "bridges" that lead to socioeconomic mobility opportunities (Briggs 2003). Briggs (2003) utilizes this variable in SCCBS in his analysis of bridging networks and segregation, and argues that the measure

"nevertheless [captures] important information about relationships that the respondents identify as important to them, including the presence or absence of a race bridge among each respondent's friendships" (p. 13).

The vertical behavioral dimensions of social cohesion are reflected by organizational activism, and the degree of racial bridging in respondents' most important group. Organizational activism is a scale available in the SCCBS, based on principal component analysis of respondents' formal group involvements, frequency of respondents' service as an officer of an organization or on a committee, frequency of attendance at club meetings, and frequency of attendance at meetings discussing schools or local affairs (Roper Center 2000). Racial bridging in formal group involvement is this study's second indicator of racial bridging in social networks. This measure reflects aggregated responses to the following question in the SCCBS: "Of all the groups that you are involved with, please think of the one that is most important to you and about the members of the group you are involved with. About how many would you say are the same race as you—all, most, some, only a few, or none?" These responses were aggregated for each community, and coded so that higher numbers indicate greater frequencies of racial bridging ties.

Trust in local and national government reflect the vertical attitudinal dimension of social cohesion. The first question asks respondents, "How much of the time do you think you can trust the national government to do what is right - just about always, most of the time, only some of the time, or hardly ever?" The second question asks the same in reference to local government. Also included in Chan and colleagues' (2006) definition of social cohesion is a sense of belonging to one's community. To measure sense of

community belonging, there are two SCCBS items that ask respondents whether or not (1) their city gives them a sense of belonging, and (2) their neighbors give them a sense of belonging. In total, there are 10 indicators of social cohesion (see Figure 4 above).

Economic Productivity and Well-Being

The economic outcomes analyzed in this study are economic productivity and economic well-being. Economic productivity is general indicator of economic growth, and at the national level is most commonly measured by Gross Domestic Product (GDP) per hours worked, yet there is no single agreed-upon definition of economic productivity (Organization for Economic Cooperation and Development 2001). Empirical studies of economic productivity and diversity offer various potential measures, such as workers' wages and income (Ottaviano and Peri 2004, 2005; Sparber 2007c), employment density (Ottaviano and Peri 2005), average per capita income growth (Li et al. 2013), and city-to-suburb income inequality (Li et al. 2013). The present study utilizes a measure of per capita Gross Domestic Product (GDP, year 2010) for each community. Per capita GDP takes the GDP of each metropolitan area and divides it by the total population of each area. GDP is an inflation-adjusted measure that includes an area's gross product, based on national prices for the goods and services produced in the area GDP *per capita* in each metropolitan area is thought to be an improvement from basic GDP, since dividing GDP by total population may indicate how well an economy is providing for its people (www.bea.gov). Per capita GDP for each area assumes, however, that all people benefit equitably from the GDP of their metropolitan area. Assuming equitable distribution of the benefits of GDP may overestimate socioeconomic equality.

To address this limitation, I analyze two additional measures of economic well-being. First, I include residential segregation by *skill* as an additional economic outcome, which may tap into how economic productivity may be evenly/unevenly distributed across neighborhoods in metropolitan areas. Large gaps between high and low skilled job opportunities in cities, according to skill complementarity theory (Benabou 1993; Li et al. 2013), contribute to overall economic inequality. The measure of skill segregation utilized here is an index of dissimilarity. An index of dissimilarity for calculating skill segregation is appropriate, since we are concerned with the skill complementarity between two groups, high-skilled and low-skilled jobs. The values in the index of skill segregation represent the percentage of low-skilled individuals that would have to change residence in order for the community to be evenly distributed in terms of high- and low-skilled occupations. Each community's skill segregation was calculated with census-tract level occupation data using the following formula:

$$D_{hl} = \frac{1}{2}\left|100\left(\frac{P_{ih}}{P_h}\right) - 100\left(\frac{P_{il}}{P_l}\right)\right|$$

where P_{ih} is the high-skilled population in census tract *i*, P_h is the high-skilled population of the entire community; P_{il} is the low-skilled population of tract *i*, and P_l is the low-skilled population of the entire community. The categorization of jobs into high- and low-skill is modeled after Li et al (2013): high-skilled labor includes those who work in management-level occupations. Low-skilled labor includes those who work in service, sales, production/transport occupations, or material moving occupations. Data on skill are available through the U.S. Census American FactFinder website at the metropolitan area level, which are easily linked to the SCCBS communities using the matching procedures outlined above, except for four cases which are specific cities (Boston, Grand

Rapids, Seattle, and Bismarck). In these four cases, the skill segregation index is calculated for the county in which each city is located.

The third economic outcome analyzed in this study is the education gap index (Rothwell 2012). In light of recent trends showing that the supply of educated workers often lags behind the educational attainment the average job requires, leading to higher unemployment rates and lower rates of job creation (Rothwell 2012), an index of the gap between the demand for educated workers and the supply of those workers within each metropolitan area is included as an overall indicator of the socioeconomic well-being of metropolitan areas and their citizenry. Using data from the American FactFinder of the U.S. Census and the Bureau of Labor Statistics, Rothwell (2012) calculates the education gap index as the total years of education required by the average job vacancy, divided by the number of years of education attained by the average working-age person. The quotient is then subtracted by one and multiplied by 100 to get the percentage gap between the supply of educated workers and the demand for those workers, within each metropolitan area. Values greater than 0 indicate that there is not a sufficient supply of educated workers to fill the job vacancies. Values less than 0 indicate that the average worker has enough education to do the job, though this does not mean that all workers have enough education. Since this index uses average education for all job vacancies and workers, it is rough estimate. It also does not capture any on-the-job training skills, or non-academic skills and experience. The education gap index is utilized here as an indicator of overall economic productivity because it not only captures the economic status of the current job market, but also addresses how well, on average, the working-age populace within each metropolitan area are positioned to participate in the economy.

Independent Variables

Race and Ethnic Diversity

There are several ways to measure racial and ethnic diversity. Measurement can range from single-group indicators such as proportions of a particular group(s) in an area, dual-group indicators, such as indices of dissimilarity, to multiple-group indicators, such as diversity scores or the multiple group entropy index. The drawback of single-item and dichotomous measures is the inability to account for more than one or two groups. For purposes of this project, two types of indicators of diversity are needed. First, I use a measure of metropolitan diversity, which describes the racial/ethnic diversity of a given area, without accounting for differences in distribution of any group across organizational units (e.g, census tracts, schools). The metropolitan diversity score is calculated as follows, according to Massey and Denton (1988) and Iceland (2004),

$$E = \sum_{r=1}^{r} (\Pi_r) \ln \left[\frac{1}{\Pi_r}\right]$$

where Π_r is the proportion of a particular race/ethnic group of the entire population. This is a partial formula that describes the general racial/ethnic diversity of the community or metropolitan area in question (Iceland 2004). The range of values depends upon the number of groups included in the calculation. The minimum value is 0, and ranges to the natural log of the number of groups included. We include four groups: Non-Hispanic Whites, non-Hispanic Blacks, non-Hispanic Asians, and Hispanics. Thus, the maximum value is log 4, or 1.386.

Second, since this study's focus is how diversity metropolitan is distributed at the meso-level, we also employ a measure of race/ethnic segregation. There are various

ways to calculate segregation and its multiple dimensions (Massey and Denton 1988). According to Massey and Denton (1988) there are five conceptually distinct measures of segregation: evenness, exposure, concentration, centralization, and clustering. Each measure represents a theoretically distinct mechanism of separation between race/ethnic groups, although these different dimensions surely overlap in real life and are statistically correlated (Massey and Denton 1988). In existing literature, measures of evenness and exposure are the most commonly seen (Reardon and Firebaugh 2002). Although Massey and Denton (1988) argue for the predominant use of the index of dissimilarity as a measure of evenness, they acknowledge that this index is a dual-group measure that cannot capture the evenness of the distributions multiple groups across organizational units, a critique echoed in other literature on the subject (e.g., Iceland 2004; Reardon and Firebaugh 2002). As the diversity of the U.S. population increases, dual-group indicators are becoming less and less adequate for describing patterns of racial/ethnic segregation (Reardon and Firebaugh 2002).

Because a specific focus of this study is the impact of the "arrangement" or distribution of diversity across schools and neighborhoods, a measure of evenness is the conceptual dimension of segregation of interest. Reardon and Firebaugh (2002) recommend the entropy index, or Theil's *H,* (also referred to as the information theory index) to measure evenness with multiple groups. The entropy index is a multi-group measure of "evenness" and describes how groups are distributed across neighborhoods or schools within the larger area (Iceland 2004; Massey and Denton 1988).

Calculation of the entropy index involves the metropolitan diversity score: first to measure the diversity of the larger geographical area, then once more for each organizational unit within the larger area. Each unit's entropy is defined as:

$$E_i = \sum_{r=1}^{r} (\Pi_{ri}) \ln \left[\frac{1}{\Pi_{ri}}\right]$$

where Π_{ri} refers to the population of a particular race/ethnic within each unit, e.g., within each school or neighborhood in the larger area. This value is then used in the calculation of the entropy index (*H)*, which describes the evenness of the distribution of each group within organizational units:

$$H = \sum_{i=1}^{n} \left[\frac{t_i(E - E_i)}{ET}\right]$$

where t_i is the total population of each smaller unit, T is the total population of the larger area, n refers to the number of units within each larger area, and E and E_i are the measures of the larger area's diversity score and each unit's (i) diversity score, respectively. The entropy index can be described as the average deviation of each smaller unit's (census tract, or school) diversity score from the diversity score of the larger geographic area. This index varies from 0 to 1, with higher values indicating a more uneven (more segregated) distribution of each group across each organizational unit. For the school index, each organizational unit is one school within the metropolitan region. For the neighborhood index, each organizational unit is one census tract within the community. In this study, the value of the index for each metropolitan area is subtracted from 1, so that higher values indicate greater *diversity*.

The above two measures of diversity will be calculated schools and neighborhoods, as well as institutions of higher education. The diversity of colleges and

universities are included here since they represent a social institution important to both the social and economic well-being of communities. Colleges and universities have also played a very important role in the history of desegregation, affirmative action, and equality of educational opportunity. Post-secondary diversity was calculated using data from the Integrated Postsecondary Education Data System (IPEDS) housed in the National Center for Education Statistics (NCES; http:///nces.ed.gov/ipeds/). All 2- and 4-year, public and private, for- and non-profit educational institutions are included. Compared to K-12 schools and neighborhoods, the number of post-secondary institutions is much smaller, especially within smaller metropolitan areas. In some cases as few as 3 colleges or universities are used to calculate the entropy index. As a result, the entropy index for post-secondary institutions may be biased. Analyses are interpreted with caution.

Diversity *per se*, the metropolitan diversity score, is useful to the extent that it measures the race/ethnic composition of each community generally. It is important to know the extent to which a community's population is racially and ethnically diverse. But it is also, if not more important, to understand that it is the distribution of different race/ethnic groups across societal institutions that to a large extent shape social interactions and socioeconomic opportunities. The entropy index will allow the present study to measure *how* metropolitan diversity is structured at the institutional or meso-level.

Economic Inequality

The relationship between diversity and social cohesion and economic productivity may be contingent upon the relative socioeconomic equality between groups. Previous

work has emphasized how economic inequality has shaped the social and economic fabric of U.S. society over time, especially in regard to race and ethnic relations (Portes and Vickstrom 2011), thus economic inequality will be included in the analysis as a control variable, and also examined as a potential moderator of the relationship between diversity and the dependent variables. To measure economic inequality, I employ a 1990 Gini index of income inequality, which comes from the GeoDa Center's Household Income Disparity database (https://geodacenter.asu.edu).

Segregation: Measurement Challenges

Multiple group indicators of segregation have gained more prominence in the literature in order to account for the growing racial/ethnic diversity (Reardon and Firebaugh 2002a). Entropy indices for both schools and neighborhoods within metropolitan areas will be calculated and utilized as indicators of meso-level diversity. The neighborhood diversity index is based on race/ethnicity data for census tracts. Two issues arise with the calculation of entropy indices using census tracts: scale and proximity (Lee, Reardon, Firebaugh, et al. 2008; Reardon, Mathews, O'Sullivan et al. 2008). Using census tracts as the organizational unit in the calculation of segregation indices has drawbacks. Neighborhood segregation based on the census tract assumes that the geographical space demarcated by tract boundaries define actual neighborhoods. Census tracts may not adequately represent what individuals designate as their local neighborhood, which may be larger or smaller than tracts and subject to other unobserved factors that are unique to particular localities (Grannis 2002; Lee et al. 2008). Additionally, conventional census tract measures of segregation assume that residents have equal proximity to each other, when, for example, Whites and minorities may

actually occupy different residential pockets within census tract areas (Lee et al. 2008). Spatial distance is an important consideration, since greater social proximity increases the probability of social interaction (Reardon and Firebaugh 2002b), and greater spatial proximity of adjacent neighborhoods has a large impact on how individuals experience segregation (Dawkins 2004). Issues with scale and proximity pervade conventional measures of segregation using census tracts.

Another challenge in analyzing meso-level diversity is the spatial clustering that exists among schools and neighborhoods. Just as neighborhoods are nested in metropolitan areas, schools are nested within neighborhoods, as neighborhoods often serve as catchment areas to determine student enrollment in K-12 public schools. As Reardon and Firebaugh (2002) note, the "brick and mortar" bounds of educational organizations allow for a straightforward examination of the institutional context of diversity using measures of school segregation. The bounds of the neighborhood, however, are less apparent. It may make sense to estimate the independent effect of school segregation on the dependent variables, since it is likely that students are located in the same physical location, thus potentially mitigating issues having to do with proximity in racial contact (Reardon and Firebaugh 2002b). Another potential method is to subsume schools within neighborhoods, and assume that the residential segregation observed at the tract level is similar to the segregation in schools within the same metropolitan area. Denton (1995) argues that residential segregation should be discussed as a "prelude" to school segregation, as school segregation is determined by neighborhood segregation "as long as the traditional geographic idea of neighborhood schools hold sway" (p. 795). For this study, due to multicollinearity concerns, school and

neighborhood diversity are analyzed in separate regression models, since the correlation between the two indexes is almost perfectly linear ($r=.931$, $p<.01$).

Control Variables

There are many factors that could potentially influence the relationship between the independent and dependent variables, which will be controlled for in the analyses. However, given the limitation in sample size, this study cannot include all that may be theoretically relevant. Since economic growth varies considerably by region of the U.S. and population size, region (northeast, midwest, south, and west) and the total metropolitan area population will be controlled for in models addressing the impact of diversity on economic productivity and well being. For analyses of the impact of diversity on social cohesion, the regional control will be treated as a dichotomous variable, comparing MSAs in the South to all non-South MSAs. The reason for this is the potential logical and theoretical interpretations of regional effects for social cohesion: given the history of anti-Black and minority prejudice in the South, it is reasonable to expect significant effects for the South compared to non-South when predicting interracial trust and racial bridging ties, two primary dimensions of social cohesion.

All statistical analyses are estimated through SPSS 20. The primary goal of these analyses is to determine the impact that institutional or meso-level diversity has on social cohesion and economic well-being and productivity. Means and standard deviations of all independent and control variables are presented in Table 1. The next chapter presents summary information for each community in the sample, descriptive statistics, factor analysis of the social cohesion indicators, and discusses the results from OLS regression analyses.

Table 1. Means and Standard Deviations for Independent and Control Variables*, N=29

	Mean	S.D.
Independent Variables		
Metropolitan Diversity	.810	.283
Neighborhood Diversity	.754	.111
K-12 School Diversity	.685	.138
Post-secondary Diversity, 1999	.690	.290
Skill Segregation	.233	.469
Average Education Gap Index, 2010-12	1.05	.019
Control Variables		
Metro Area Population (1000s)	1992.45	2312.83
Economic Inequality, 1990	.413	.024

CHAPTER 5

RESULTS

This chapter presents descriptive statistics and results from the OLS regression models that describe the extent to which institutional diversity impacts social cohesion and economic productivity and well-being.

Descriptive Statistics

Table 2 displays summary information for each community comprising the sample. The largest metropolitan area in terms of population size is Los Angeles, CA, with a total population in 2000 of 9,519,338. The smallest metropolitan area included in the sample is Lewiston-Auburn, ME, with a total population in 2000 of 90,830. MSAs with the higher populations are also those that are the most racially and ethnically diverse at the macro-level. The values of macro-level diversity range from 0 to 1.38. Los Angeles, CA is the most diverse metropolitan area (1.31), followed by San Francisco, CA (1.26), and Houston, TX (1.25). Looking at meso-level diversity (the multigroup desegregation index), which ranges from 0-1, the least racially isolated community for both schools and neighborhoods in the sample is Lewiston-Auburn, ME (.97). This MSA, however, is also the most ethnically homogenous, with a minority population of only 3.80%. Detroit, MI, MSA is the community that shows the highest levels of school (.48) and neighborhood (.52) racial isolation; Detroit's metro area population is approximately 29.60% minority race/ethnicity.

Multivariate Analyses

The presentation of the multivariate findings is organized around the three research questions addressed in this dissertation: First, I examine whether meso or

Institutional (school and neighborhood) diversity, net of macro (metropolitan) diversity positively impacts wide range of important community social cohesion indicators (general social trust, racial trust, trust in government, sense of belonging, interracial bridging ties, social distance, and informal interactions) and economic productivity and well-being (per capita GDP, skills segregation, and education gap). Second, I examine whether the widely studied effects of macro (metropolitan) diversity on community social cohesion and economic productivity and well-being are mediated by meso (institutional) diversity. I analyze the whether effects of metropolitan diversity are reduced when institutional (school and neighborhood) diversity are taken into account. Finally, I examine whether the effects of macro (metropolitan) diversity on community social cohesion and economic productivity and well-being are conditional on either meso (institutional) diversity or economic inequality? Specifically, I analyze the effects of metropolitan diversity under conditions of high and low institutional (school and neighborhood) diversity and conditions of high and low economic inequality.

The mediating analyses proceed through a series of OLS regression estimates of the impact of macro-level diversity on social cohesion and economic productivity and well-being, taking into account how meso-level diversity influences this relationship. Correlations between all model variables show several significant associations (see Appendix). In particular, neighborhood and school desegregation exhibit an almost perfect linear relationship ($r=.931$, $p<.01$), which precludes assessing the unique effects of neighborhood and school diversity concurrently in the multivariate analyses, due to issues of multicollinearity. As a result, I perform separate OLS regression models when assessing the effects of meso-level (school and neighborhood) diversity on each

dependent variable. This is followed by an assessment of the moderating impact of community economic inequality on the relationship between diversity and the dependent variables. Then, I create an index of institutional diversity to assess the combined effects of school and neighborhood diversity. Finally, I present a second moderation analysis that shows how the effects of macro-diversity on the dependent variables may be contingent upon the relative level of meso-diversity across communities.

Table 2. Summary Information for Independent and Control Variables, by metro area (or city)

Metro Area (or city)	*Population (2000)*	*Racial/Ethnic Macro-Diversity Score (2000)* range: 0-1.39	*% Minority*	*Institutional Diversity range: 0-1*		*Skill Segregation* (2000)	*Average Educ. Gap Index (2010-12)*	*Economic Inequality* (1990)
				School	*Nbrhd*			
Atlanta, GA MSA	4,112,998	1.03	40.20	.59	.70	27.19	1.06	.39
Baton Rouge, LA MSA	602,984	.84	36.10	.72	.66	25.43	1.06	.43
Birmingham, AL MSA	921,106	.80	33.60	.45	.59	27.73	1.06	.43
Bismarck, ND MSA	94,719	.27	5.10	.93	.96	11.95	.	.40
Boulder-Longmont, CO MSA	291,288	.62	43.80	.81	.74	20.39	1.02	.46
Boston (city), MA	869,045	1.22	16.40	.83	.92	29.98	.	.42
Charleston, WV MSA	251,662	.37	8.40	.78	.83	22.15	.	.43
Charlotte-Gastonia-Rock Hill, NC-SC MSA	1,499,293	.86	28.80	.82	.78	25.49	1.06	.40
Chicago, IL PMSA	8,272,768	1.15	42.00	.50	.58	27.00	1.06	.38
Cincinnati-Middletown, OH-KY-IN MSA	1,646,395	.58	16.50	.57	.64	22.37	1.05	.40
Cleveland, OH MSA	2,250,871	.77	24.60	.49	.56	26.19	1.06	.40

Denver, CO MSA	2,109,282	.93	29.60	.74	.80	.29	1.04	.39
Detroit, MI MSA	4,441,551	.87	30.30	.48	.52	.27	1.06	.40
Grand Rapids (city), MI	272,953	.97	27.70	.70	.75	.21	1.05	.40
Greensboro-Winston Salem, NC MSA	1,251,509	.83	27.70	.87	.75	.24	1.06	.41
Houston, TX MSA	4,177,646	1.25	53.90	.68	.72	.33	1.09	.43
Kalamazoo, MI, MSA	452,851	.65	16.70	.76	.83	.18	.	.42
Knoxville, TN MSA	687,249	.42	9.40	.69	.79	.21	1.03	.43
Lewiston-Auburn, ME MSA	90,830	.22	3.80	.91	.97	.13	.	.40
Los Angeles, CA MSA	9,519,338	1.31	68.90	.69	.71	.33	1.08	.47
Minneapolis -St. Paul MN MSA	2,968,806	.65	15.40	.79	.81	.20	1.02	.37
Phoenix AZ MSA	3,251,876	.96	34.20	.76	.80	.40	1.07	.42
Rochester, NY MSA	1,098,201	.68	17.80	.63	.72	.21	1.02	.38
San Diego CA MSA	2,813,833	1.20	45.00	.78	.81	.27	1.05	.42
San Francisco CA MSA	1,731,183	1.26	48.80	.84	.79	.27	1.03	.45
Seattle (city), WA	764,431	.89	30.30	.72	.89	.22	1.04	.41
Syracuse, NY MSA	732,117	.53	12.00	.67	.74	.20	1.04	.40
Yakima, WA MSA	222,581	.98	43.50	.75	.78	.19	.	.44
York, PA MSA	381,751	.40	8.50	.65	.77	.17	1.06	.38

Social Cohesion

In total, this study examines ten social cohesion variables[1], reflecting the multiple dimensions of social cohesion discussed by Chan and colleagues (2006). Each dimension was analyzed in separate OLS regression equations. Racial trust and racial bridging ties (through diverse friendships and group involvement) are examined in detail in the following sections, since they display the most clear and consistent results in the mediation analyses. The OLS estimates of the impact of macro- and meso-diversity on racial trust, an important attitudinal dimension of social cohesion, are displayed in Table 3. The OLS estimates for racial bridging ties are displayed in Tables 4 and 5. Each table displays three sequential statistical models to describe the impact of diversity on social cohesion. Across Tables 3-5, Model I presents the bivariate association between macro-level or metro diversity and each respective social cohesion dimension. Model II introduces the measure for meso-level diversity; and Model III is the full model including all control variables. For the remaining indicators of social cohesion that yielded significant models and coefficient estimates (general social trust, informal social interactions, and trust in local government), results for the full models with statistical controls are presented in Tables 7 and 8.

Racial Trust

Table 3 presents both standardized (B) and unstandardized (b) OLS regression coefficients that estimate the effects of both macro (metropolitan) and meso (school and neighborhood) diversity on racial trust. At the macro level, racial and ethnic diversity is

[1] Although exploring the potential for any underlying constructs for multiple indicators of a single concept is common, an exploratory factor analysis is not presented for these variables, since the different dimensions of social cohesion were related to diversity in significantly different ways when analyzed separately.

inversely associated with racial trust: the more diverse a metropolitan area is, the more likely it is that there will be lower aggregate levels of racial trust. This initial bivariate association between metro-area diversity and racial trust in Model I shows that racial trust *decreases* levels by approximately .287 for every one-unit increase in metro area diversity (b=-.287, p<.001). Model II in Table 3 introduces school (top panel) and neighborhood (bottom panel) diversity, respectively; results in this column indicate that net of metro area diversity, both school (b=.367, p<.05) and neighborhood (b=.362, p<.01) diversity are positively associated with racial trust. The statistically significant negative relationship between metro area diversity and racial trust persists. However, when school diversity is taken into account, the direct effect of metro diversity on racial trust is reduced by 9%, indicating that school desegregation mediates this relationship. When neighborhood diversity is taken into account, the direct effect of metro diversity on racial trust is also reduced by 9%, indicating that residential integration also has an important mediating effect on this relationship. Additionally, the inclusion of school and neighborhood diversity in the models increases the total variance explained in racial trust by roughly 5% and 11%, respectively. Taken together, these patterns indicate that understanding racial trust in communities requires consideration of both macro- and meso-level diversity. The full model with controls (Model III) reveals that school diversity has a significantly positive (b=.263, p<.01) influence on racial trust, net of region, 1990 economic inequality and population density of the metropolitan area. The full model with neighborhood diversity (Table 3, bottom panel) shows similar patterns. Although the negative impact of metropolitan diversity maintains significant across models, the neighborhood diversity index positively impacts aggregate levels of

interracial trust in communities, net of other factors (b=.404, p<.001). Comparing the standardized regression coefficients within the full models examining both school and neighborhood effects reveals that metro-level diversity exhibits the largest effect of any factor considering racial trust (B=-.753 for school diversity model; B=-.658 for neighborhood diversity model, respectively).

Table 3 also shows significant regional effects: compared to the Northeast, Midwest, and West, metropolitan areas in the South tend to have lower overall levels of racial trust, which is expected given the South's history of racial prejudice. Economic inequality also has a significant effect on racial trust: higher 1990 economic inequality is associated with *lower* overall racial trust across models (school diversity model: b=-1.023, p<.05; neighborhood diversity model: b=-1.025, p<.05). Adjusted R-squared values indicate that the factors examined in our models explain about 79% of the variance in racial trust, which is unusual in the social sciences in general, but not unexpected when analyzing aggregate data.

Racial Bridging Ties

Table 4 displays results for the impact of diversity on aggregate levels of racial bridging ties through friendship networks, which represents an important behavioral dimension of social cohesion. Overall, both macro and meso diversity are found to *increase* racial bridging ties. While metro-area diversity was inversely related to racial trust, an attitudinal dimension of social cohesion, it is positively associated with diversity of friendship networks (b=.798, p<.001). In the top panel of Table 4, results for the full model show that school diversity also has a significant positive impact on racial bridging friendships, net of regional effects and other factors (b=.543, p<.05). Neighborhood

diversity (bottom panel of Table 4) also is associated with the formation of racial bridging in friendships, controlling for other factors (b=.907, p<.01). A comparison of the magnitude of each effect through the standardized Beta coefficients (B) reveals that, similar to the models predicting racial trust, metro diversity still exerts the largest impact on racial bridging friendships across models.

Table 3. OLS Regression of School and Neighborhood Diversity on Racial Trust (N=29)

	SCHOOLS					
	I		II		III	
Predictors	b	B	b	B	b	B
Metro Diversity	-.287***	-.792	-.260***	-.754	-.273***	-.753
	(.043)		(.042)		(.058)	
School Diversity			.367*	.263	.263**	.328
			(.169)		(.079)	
Economic Inequality, 1990					-1.023*	-.223
					(.501)	
South					-.053^{+}	-.217
					(.026)	
(ln)Population Density, 1997					.014	.143
					(.016)	
F	45.422***		28.182***		21.971***	
R^2	.613		.660		.789	
Constant	2.304***		1.948***		2.451***	
	NEIGHBORHOODS					
	I		II		III	
Predictors	b	B	b	B	b	B
Metro Diversity	-.287***	-.792	-.260***	-.653	-.238***	-.658
	(.043)		(.042)		(.053)	
Neighborhood Diversity			.362**	.362	.404***	.405
			(.169)		(.096)	
Economic Inequality, 1990					-1.025*	-.223
					(.449)	
South					-.043^{+}	-.177
					(.024)	
(ln)Population Density, 1997					.016	.159
					(.015)	
F	45.422***		38.827***		27.338***	
R^2	.613		.719		.825	
Constant	2.304***		1.948***		2.284***	

***p<.001; **p<.01 *p<.05; $^{+}$p<.10; standard errors in parentheses.

Table 4. OLS Regression of School and Neighborhood Diversity on Racial Bridging Ties through Friendship (N=29)

	SCHOOLS					
	I		II		III	
Predictors	b	B	b	B	b	B
Metro Diversity	.798***	.807	.829***	.839	.590**	.597
	(.112)		(.108)		(.188)	
School Diversity			.475^{+}	.217	.543*	.249
			(.238)		(.257)	
Economic Inequality, 1990					.104	.008
					(1.626)	
South=1					-.050	.083
					(.083)	
(ln)Population Density, 1997					.083	.311
					(.052)	
F	50.593***		30.096***		14.185***	
R^2	.639		.675		.702	
Constant	.841***		.490*		.025	
	NEIGHBORHOODS					
	I		II		III	
Predictors	b	B	b	B	b	B
Metro Diversity	.798***	.807	.913***	.924	.667**	.675
	(.112)		(.109)		(.179)	
Neighborhood Diversity			.828**	.304	.907**	.333
			(.300)		(.320)	
Economic Inequality, 1990					-.007	-.001
					(1.503)	
South					-.024	-.036
					(.080)	
(ln) Population density, 1997					.089^{+}	.334
					(.049)	
F	50.593***		35.285***		16.624***	
R^2	.639		.710		.736	
Constant	.841***		.123		.791	

***p<.001; **p<.01 *p<.05; $^{+}$p<.10; standard errors in parentheses.

Table 5. OLS Regression of School and Neighborhood Diversity on Race Bridging through "Important Group" (N=29)

	SCHOOLS					
	I		II		III	
Predictors	b	B	b	B	b	B
Metro Diversity	.630***	.887	.638***	.898	.453***	.638
	(.063)		(.064)		(.099)	
School Diversity			.122	.077	.051	.032
			(.142)		(.136)	
Economic Inequality, 1990					1.647^{+}	.183
					(.858)	
South=1					-.084	-.176
					(.044)	
(ln)Population Density, 1997					.040	
					(.028)	
F	99.621***		49.692***		30.271***	
R^2	.779		.777		.839	
Constant	1.832***		1.742***		1.001**	
	NEIGHBORHOODS					
	I		II		III	
Predictors	b	B	b	B	b	B
Metro Diversity	.630***	.887	.661***	.930	.463***	.651
	(.063)		(.068)		(.100)	
Neighborhood Diversity			.221	.113	.113	.058
			(.187)		(.179)	
Economic Inequality, 1990					1.594^{+}	.177
					(.838)	
South=1					-.079^{+}	-.166
					(.044)	
(ln)Population Density, 1997					.042	.219
					(.027)	
F	99.621***		51.250***		30.663***	
R^2	.779		.782		.841	
Constant	1.832***		1.640***		.951*	

***p<.001; **p<.01 *p<.05; $^{+}$p<.10; standard errors in parentheses.

Results for the impact of diversity on racial bridging ties are presented in Table 5 (above). Similar to the results for racial bridging ties through personal friendships (Table

4), overall, across Models I – III, macro-level diversity increases likelihood of race bridging through individuals' "most important" social group. School and neighborhood diversity are also positively associated with racial bridging ties, yet do not reach statistical significance. A portion of the literature on diversity and social cohesion, particularly informal social relationships and associational life, predicts that racial/ethnic diversity leads people to "hunker down" and engage less with others in their community (Putnam 2000). These results indicate, however, that diversity has the opposite effect on aggregate levels of racial bridging ties through diverse friendships. Bearing in mind the negative impact of metropolitan diversity on racial trust (see Table 3), these results seem counterintuitive. If metropolitan area diversity leads to lower interracial trust, one may also be inclined to believe people would also be less likely to have different race/ethnicity friends, assuming trustworthiness is a common aspect of friendship. A potential explanation for this is that trust, as opposed to friendships, is a more abstract element of social cohesion, and intergroup relations in general, than is personal friendship. For example, if one is asked to report their close personal friends of another race/ethnicity, we could speculate that that respondent "trusts" those specific friends, assuming that friendship involves a degree of trustworthiness. A person's trust towards outgroups in general, however, may have nothing to do with an individuals' specific and subjective personal relationships.

Exploring the statistical relationship between interracial trust and racial bridging ties in friendships is informative. The two items are negatively correlated ($r=-.493$, $p=.007$), an unexpected finding given the predictions of intergroup contact theory, which posits that intergroup contact, such as friendship, leads to reductions in prejudice and

more positive outgroup attitudes, such as trust (Allport 1954; Pettigrew 2008). Additionally, Gundelach and Freitag (2014) found that the relationship between racial trust and ethnic diversity was significantly moderated by interethnic friendships; the frequency of what they refer to as "actual" interethnic contact through friendships and casual home visits was shown to partially compensate for the negative effect of diversity on trust.

A regression analysis (Table 6) of the impact of racial bridging ties through friendships[2] on racial trust shows that net of macro-level diversity, diversity of friendships in fact *increases* racial trust levels (b=.154, p<.05). Upon introducing meso-level diversity into the model, however, the impact of diversity of friendships on racial trust becomes non-significant. These findings suggest that having a different race/ethnicity friend is not significantly associated with greater outgroup trust, when accounting for the impact of meso-level diversity.

Table 6. Analyses of Racial Bridging Ties and Racial Trust (N=29)

Dependent Variable:	Racial Trust		
Predictors	b	b	b
Metro Diversity	-.852***	-.329***	-.240**
	(.163)	(.073)	(.065)
Racial Bridging Friendships	.154*	.087	.032
	(.068)	(.071)	(.060)
Meso-level Diversity[b]		.162*	.205**
		(.075)	(.064)
South			-.056*
			(.022)
Economic Inequality, 1990			-1.033*
			(.476)

***p<01 *p<.05; [+]p<.10; [a]Combined index of school and neighborhood diversity

[2] This relationship was also assessed for racial bridging ties through respondents' "most important" group, but results showed high multicollinearity with macro-level diversity, thus results are presented only for racial bridging ties through friendships.

Other Dimensions of Social Cohesion

Racial trust and racial bridging ties were the dimensions of social cohesion that revealed the most clear and consistent patterns in relation to institutional diversity. Aside from some marginally significant coefficients for regional effects, the OLS regression analyses did not yield any statistical significant findings for four other dimensions of social cohesion: trust in national government, organizational activism, sense of belonging through neighbors, and sense of belonging from city (these results are not shown). Tables 7 and 8 display the unstandardized and standardized Beta coefficients for the full model including regional effects, population size, and economic inequality, for each remaining dimension of social cohesion that yielded an overall model significance and at least one significant individual regression coefficient.

Across these dimensions of social cohesion, neighborhood and school diversity operate relatively similarly. In particular, both school and neighborhood diversity have a significantly positive effect on aggregate levels of trust in local government. The impact of school and neighborhood diversity on trust in local government is interesting: neighborhood and school diversity increases aggregate levels of trust in the local government. This may indicate respondents' belief in the efficiency of local institutions to meet their needs. This is especially important since public schools, which are typically run and managed by publically elected officials, may be perceived as more effective for students if they are more diverse. Specifically, net of metropolitan diversity, region, and economic inequality, the more diverse a community's schools ($b=.237$, $p<.05$) and neighborhoods ($b=.319$, $p<.05$) are, the more likely it is that community residents trust their local governments will do what is right.

Table 7. Full Model OLS Regression Results for School Diversity and Social Cohesion (N=29)

	I *General Social Trust*		*II* *Informal Social Interaction*		*III* *Trust in Local Government*	
Predictors	b	B	b	B	b	B
Metro Diversity	-.241*	-.515	-.142*	-.595	.017	.049
	(.098)		(.056)		(.082)	
School Diversity	.273^{+}	.264	-.033	-.063	.237*	.307
	(.134)		(.076)		(.112)	
					-	-.413
Economic Inequality, 1990	-1.541^{+}	-.260	.738	.244	1.828*	
	(.847)		(.480)		(.707)	
					-	-.511
South	-.070	-.223	-.082**	-.512	.120**	
	(.043)		(.025)		(.036)	
(ln)Population density, 1997	-.011	-.087	-.016	-.253	-.027	-.290
	(.027)		(.015)		(.023)	
F	10.933***		7.944***		7.793***	
R^2	.639		.554		.548	
Constant	.753*		-.030		1.307***	

***p<.001; **p<.01 *p<.05; $^{+}$p<.10

Table 8. Full Model OLS Regression Results for Neighborhood Diversity and Social Cohesion (N=29)

	I *General Social Trust*		*II* *Informal Social Interaction*		*III* *Trust in Local Government*	
Predictors	b	B	b	B	b	B
Metro Diversity	-.201*	-.429	-.144*	-.604	.045	.129
	(.092)		(.056)		(.082)	
Neighborhood Diversity	.475**	.368	-.022	-.033	.319*	.332
	(.165)		(.101)		(.147)	
					-	-.398
Economic Inequality, 1990	-1.625*	-.274	.694	.229	1.761*	
	(.775)		(.473)		(.692)	
					-	-.491
South	-.056	-.177	-.081**	-.504	.115**	
	(.041)		(.025)		(.037)	
(ln)Population density, 1997	-.007	-.056	-.015	-.237	-.028	-.295
	(.025)		(.015)		(.023)	
F	13.289***		7.864***		7.875***	
R^2	.687		.551		.551	
Constant	.551^{+}		-.024		2.051***	

***p<.001; **p<.01 *p<.05; $^{+}$p<.10

The finding for general social trust (Model I) reveals a negative bivariate relationship with metropolitan diversity (B=-.347, p<.001, not shown). However, neighborhood diversity is positively associated with general social trust (b=.475, p<.01), net of other factors. The coefficient for economic inequality in 1990 (b=-1.625, p<.05) indicates an inverse relationship with general social trust. Metropolitan diversity is inversely associated with aggregate levels of informal social interaction (Model II). The index of informal social interactions represents respondents' level of sociability with friends, relatives, and coworkers outside of work. Net of neighborhood diversity and other factors, metropolitan diversity decreases aggregate informal sociability (b=-.144, p<.05). For metro diversity, the pattern of results is similar to the model with school diversity (b=-.142, p<.05). These findings are consistent with a portion of the literature that predicts greater race/ethnic diversity leads people to associate less with others, which some scholars attribute to lower overall levels of trust (Putnam 2000). Interestingly, in these models meso-level diversity is not a significant factor, but the coefficients are negative. However, as shown above, both neighborhood and school diversity are positively associated with general social trust, as well as racial trust, net of macro-level diversity and other factors. While metropolitan diversity may negatively impact the frequency of informal social interactions with others, this does not necessarily indicate that people trust others less, or are likely to have fewer friends. An analysis of the impact general or racial trust on informal social interactions (not shown), reveal no significant effects.

In sum, these findings underscore the importance of social institutions as sites of routine human interactions that create the contexts in which social cohesion may or may

not emerge in diverse societies. The effect of macro-level diversity on social cohesion outcomes varied across the attitudinal dimensions (racial trust and social trust) and the behavioral dimensions (racial bridging ties through friendships and group membership). Nevertheless, racial trust and social trust are only the two attitudinal dimensions of social cohesion on which macro-level diversity exerted a statistically significant negative impact. To further explore the impact of diversity on attitudinal dimensions of social cohesion, Table 9 displays presents results from an analysis of the impact of diversity on attitudes towards interracial marriage – a measure of social distance. Attitudes towards interracial/ethnic marriage has been the strongest indicator of social distance in past literature in the social psychology of race and ethnic relations, and is an established measure of outgroup acceptance (Gordon 1964; Bogardus 1967; Qian 1997). People who accept outgroup members as marriage partners are also likely to accept such individuals in other less intimate encounters, such as friendships, neighbors, coworkers, classmates. While attitudes towards interracial marriage is not a "conventional" indicator of social cohesion in the literature, it is nonetheless an important indicator of prejudice and social distance between race/ethnic groups. Results show that both macro- and meso-diversity are *positively associated with support for* interracial marriage. Indeed, support for interracial marriage is one of only a few outcomes where macro and meso diversity show similar effects in both magnitude and direction. Compared to the impact of meso-level diversity, the effects of macro diversity on attitudes towards interracial marriage are relatively similar in terms of magnitude of the standardized coefficients ($B=.387$, $p<.10$ compared to $B=.385$, $p<.01$, respectively). Among the full set of predictors included in this model, region has the largest effect: residents in Southern communities show

stronger resistance to interracial marriage (standardized B=-.602, p<.001). Perhaps, this would be expected given the conservatism and history of anti-minority prejudice and racism of that region.

In general, the foregoing analyses of the impact of macro- and meso-level diversity on social cohesion outcomes – attitudinal and behavioral – underscore the important role played by social institutions in shaping intergroup attitudes and behaviors in a diverse society. Moreover, these findings indicate that meso-level diversity partially compensates for the negative effect of macro-level diversity on social and racial trust, and potentially enhances the positive impact of diversity on racial bridging ties.

Table 9. OLS Regression of Meso-Level Diversity on Attitudes toward Interracial/Ethnic Marriage[a] (N=29)

	I		II		III	
Predictors	b	B	b	B	b	B
Metro Diversity	.147	.253	.212^{+}	.366	.224^{+}	.387
	(.108)		(.106)		(.112)	
Meso Diversity			.381*	.381	.384**	.385
			(.184)		(.123)	
Economic Inequality, 1990					-2.081*	-.284
					(.957)	
South					-.234***	-.602
					(.957)	
(ln) Population density, 1997					.021	.134
					(.031)	
F	1.85		3.183^{+}		13.646***	
R^2	.029		.135		.693	
Constant	2.424***		1.953***		2.716***	

[a]Responses coded so that higher values indicate greater favorability for interracial marriage
***p<.001; **p<.01 *p<.05; $^{+}$p<.10

Economic Outcomes

The present study analyzes three metropolitan level economic outcomes: per capita Gross Domestic Product (GDP) for 2010, residential segregation by skill for 2010,

and the average education gap index for 2010-2012. Per capita GDP is the total GDP per metropolitan area, divided by the total population, and is a direct measure of economic productivity. Dividing GDP by the metro area population, yields a measure which roughly describes how well an economy is providing for its people. Per capita GDP does not account for how evenly or equitably the benefits of economic productivity are distributed across population demographics. However, I include two additional economic outcomes, which are more indicative of the economic well-being of communities: residential segregation by skill (2010) and the average education gap index (2010-2012). These measures reflect how the benefits of economic productivity, and opportunities for socioeconomic mobility, may be more or less evenly distributed across the population.

Per Capita Gross Domestic Product

Table 10 displays results from OLS regression analyses predicting 2010 per capita GDP for each metropolitan area. In these models, the effects of region and economic inequality were excluded, due to issues of model fit. When regional and economic inequality indicators were included, the omnibus model fit diagnostics declined to non-significance, standard errors were severely inflated, and the adjusted R-squared values decreased when adding regional and economic inequality control variables (from .314 to .213).

Results in Table 10 show that racial and ethnic metropolitan diversity are positively associated with per capita GDP ($b=18.810$, $p<.01$). Importantly, however, when school and neighborhood diversity and population density are introduced into the model, the effects of metropolitan diversity are no longer significant. The apparently spurious relationship between metropolitan diversity and per capita GDP is almost fully

mediated by institutional (school and neighborhood) diversity. Nevertheless, population size exerts the largest impact on per capita GDP, with standardized beta coefficients greater than .600, compared to school (B=.347) and neighborhood (B=.360) diversity.

Skill Segregation

Table 11 present estimates of the impact of institutional diversity on residential segregation by skill. This measure of skill segregation describes the proportion of low-skilled workers that would have to move to a different residence in order for the metropolitan area to be evenly distributed in terms of worker skill-level. The skills gap is an indicator of skill complementarity in the labor market (Li et al. 2013), which is linked to increased overall metropolitan-area economic productivity (Benabou 1993; Li et al. 2013). In comparison to per capita GDP, residential segregation by skill reveals more about how productivity benefits are more or less evenly distributed across groups. Results of the present study show that metropolitan area diversity increases residential skill segregation. Controlling for school and neighborhood diversity, metropolitan area diversity is significantly associated with a .062 (for models with neighborhood diversity) and .080 (for models with school diversity) increase in the proportion of residents that would have to move in order for their neighborhoods to be evenly distributed in terms of skill level of residents' occupations. On the other hand, the effects of neighborhood and school diversity are negative and significant, suggesting that diversity of neighborhoods and schools are associated with a narrowing of the skill gap. Specifically, across metropolitan areas, a percentage increase in K-12 school diversity (Table 11, top panel) is associated with a .095 decrease in the skills gap ($b=-.095$, $p<.10$), and a percentage increase in neighborhood diversity (Table 11, bottom panel) is associated with a .146

decline in the skill gap (b=-.146, p<.05). These findings indicate that on average, metropolitan areas with higher levels of race/ethnic diversity in schools and neighborhoods are also more likely to have a more evenly distributed supply of high- and low-skilled workers, potentially indicating a more balanced and thus more equitably productive labor market.

Education Gap Index

The 2010-2012 average education gap index represents the extent to which the job demand for educated workers in a metropolitan area exceeds the supply of those educated workers within the same metropolitan area. Results presented in Table 12 reveal that metropolitan area diversity is associated with a wider gap between the labor market demand for educated workers, and the supply of those workers. K-12 school diversity in 2000, though, decreases the education gap index (b=-.095, p<.10), suggesting that greater school diversity expands opportunities for students to earn the educational credentials necessary to participate in their local economy.

Results for the impact of neighborhood diversity in 2000 on the subsequent average education gap index for 2010-2012 are displayed in the bottom panel of Table 12. Metropolitan diversity, once neighborhood diversity and other factors are accounted for, is no longer significantly associated with the education gap index, indicating that residential integration has an important mediating effect on this relationship. Neighborhood diversity, however, is negatively associated with the education gap (B=-.102, p<.05). Specifically, metropolitan areas with more diverse neighborhoods are more likely to produce labor forces in which average workers are trained to meet the education

requirements for typical job vacancies. This model explains approximately 45% of the variance in the education gap index across metropolitan areas in the sample.

Table 10. OLS Regression Results for Institutional Diversity on 2010 Per Capita GDP (in $1000) (N=29)

	I		II		III	
Predictors	b	B	b	B	b	B
Metro Diversity	18.810**	.545	2.766	.083	6.472	.194
	(5.383)		(7.276)		(7.371)	
School Diversity			25.603*	.347		
			(10.458)			
Neighborhood Diversity					33.070*	.360
					(13.911)	
(ln)Population Density, 1997			5.944**	.660	5.673**	.630
			(2.003)		(1.995)	
F	11.407**		9.361***		9.165**	
R^2	.271		.473		.467	
Constant	30.282***		-16.142		6.999	

***p<.001; **p<.01 *p<.05; $^{+}$p<.10; standard errors in parentheses

Table 11. OLS Regression Results for School and Neighborhood Diversity and Residential Segregation by Skill (N=29)

SCHOOLS

	I		II		III	
Predictors	b	B	b	B	b	B
Metro Diversity	.149***	.020	.144***	.801	.080*	.445
	(.020)		(.019)		(.034)	
School Diversity			-.066	-.165	-.095^{+}	-.238
			(.043)		(.049)	
Economic Inequality, 1990					.295	.129
					(.283)	
Northeast					-.039^{+}	-.271
					(.020)	
West					-.015	-.122
					(.017)	
Midwest					-.043*	-.351
					(.016)	
(ln)Population density, 1997					.013	.258
					(.009)	
F	57.466***		31.370***		13.118***	
R^2	.669		.684		.752	
Constant	12.825***		.177***		.061	

NEIGHBORHOODS

	I		II		III	
Predictors	b	B	b	B	b	B
Metro Diversity	.149***	.825	.135***	.749	.062^{+}	.342
	(.020)		(.020)		(.034)	
Neighborhood Desegregation			-.098^{+}	-.197	-.146*	-.294
			(.056)		(.065)	
Economic Inequality, 1990					.258	.113
					(.273)	
Northeast					-.041*	-.285
					(.019)	
West					-.008	-.066
					(.018)	
Midwest					-.042*	-.345
					(.018)	
(ln)Population Density, 1997					.013	.266
					(.009)	
F	57.466***		32.380***		13.901***	
R^2	.669		.691		.763	
Constant	.128***		.213***		.132	

***p<.001; **p<.01 *p<.05; $^{+}$p<.10; standard errors in parentheses

Table 12. OLS Regression of School and Neighborhood Diversity on the Average Education Gap[a], 2010-2012 (N=22)

	SCHOOLS					
	I		II		III	
Predictors	b	B	b	B	b	B
Metro Diversity	.028^{+}	.375	.036*	.484	.057*	.751
	(.016)		(.015)		(.023)	
School Diversity			-.057^{+}	-.401	-.068^{+}	-.480
			(.029)		(.033)	
Economic Inequality, 1990					.055	.075
					(.181)	
Northeast					-.016	-.294
					(.014)	
West					.003	.069
					(.013)	
Midwest					-.005	-.120
					(.014)	
(ln)Population Density, 1997					-.011	-.547
					(.008)	
F	3.277^{+}		3.882*		3.112*	
R^2	.098		.215		.413	
Constant	1.025***		1.055***		1.105***	

	NEIGHBORHOODS					
	I		II		III	
Predictors	b	B	b	B	b	B
Metro Diversity	.028^{+}	.378	.030^{+}	.394	.045	.598
	(.016)		(.015)		(.022)	
Neighborhood Diversity			-.077^{+}	-.389	-.102*	-.517
			(.038)		(.044)	
Economic Inequality, 1990					.017	.024
					(.178)	
Northeast					-.019	-.345
					(.013)	
West					.007	.167
					(.013)	
Midwest					-.005	-.125
					(.014)	
(ln)Population Density, 1997					-.010	-.517
					(.008)	
F	3.277^{+}		3.917*		3.413*	
R^2	.098		.217		.446	
Constant	1.025***		1.079***		1.155***	

[a]N=22; ***p<.001; **p<.01 *p<.05; $^{+}$p<.10

Post-Secondary Educational Diversity

Communities that are home to colleges and universities and other institutions of post-secondary education typically may receive economic, cultural, and social benefits. As a result, diversity in post-secondary educational institutions could also influence community social cohesion and economic well-being. In Table 13 below, the impact of higher education diversity on racial trust and diversity of friendships is examined. Results suggest that, net of metro area diversity, higher education diversity is positively associated with metropolitan level interracial trust (B=.367, p<.05). When accounting for regional effects, economic inequality, and population density, however, the impact of higher education diversity on racial trust is not significant. Nevertheless, Model II results reveal that higher education diversity mediated the relationship between metropolitan diversity and racial trust. Results for the impact of higher education diversity on diversity of friendships (Table 14) are similar to those reported for neighborhood and school diversity. These results should be interpreted with caution because as noted previously, the number of higher educational institutions units available for selection within each metropolitan area was considerably lower than the units available for schools and neighborhoods. If there were comparable numbers of post-secondary institutions as there are for schools and neighborhoods, it is likely that these results might be different. Nevertheless, the association between social cohesion and higher education diversity controlling for metro diversity, are compelling. Metropolitan area diversity exerts a consistently positive and significant impact on individuals' aggregated race bridging ties in friendship, net of all other factors in the model. Diversity in post-secondary institutions increases racial bridging (B=1.132, p<.01), but once control variables are

introduced, this effect is no longer statistically significant. The same models were estimated predicting racial bridging through group involvement (not shown), which showed patterns consistent with results for racial bridging through friendships. Metropolitan diversity and diversity in post-secondary institutions increases the likelihood of racial bridging in respondents' "most important" group, even though the statistical significance of diversity in higher education is diminished when region, economic inequality, and population size are controlled.

In each OLS regression analysis presented above, it was surprising that lagged economic inequality from 1990 did not have a more consistent impact on the various dimensions of social cohesion and economic outcomes. Economic inequality was a significant correlate of racial trust, general social trust, and trust in local government. Economic inequality, however, had no significant impact on the indicators economic well-being, skill segregation or the education gap index. In the model predicting general social trust (see Tables 7 and 8), economic inequality was negatively associated with general social trust, net of school and neighborhood desegregation and regional effects (neighborhood model: $b=-1.387$, $p<.10$; school model: $b=1.505$, $p<.10$). Economic inequality was also negatively associated with aggregate levels of trust in local government, net of other factors (neighborhood model: $b=-1.018$, $p<.10$; school model: $b=-1.196$, $p<.10$). Given the important role that community economic status and inequality play in shaping social and economic outcomes in the existing literature, the limited influence that economic inequality seems to have in these models is surprising. To probe these relationships further, the sample was split into two subgroups (high and low economic inequality), to test for potential moderating effects. The next sections of

this chapter proceed with a presentation of results from the analysis of economic inequality as a moderator, to determine if the relationships between diversity and key dependent variables are contingent upon community economic inequality.

Table 13. OLS Regression of Post-Secondary Diversity on Racial Trust (N=29)

	I		II		III	
Predictors	b	B	b	B	b	B
Metro Diversity	-.287***	-.792	-.260***	-.718	-.254**	.074
	(.043)		(.042)			
Higher Ed. Diversity			.367*	.250	.156	.106
			(.169)		(.238)	
Economic Inequality, 1990					-.592	-.129
					(.622)	
South					-.060	-.245
					(.040)	
(ln)Population Density, 1997					-.001	-.006
					(.019)	
F	45.422***		28.182***		13.734***	
R^2	.613		.660		.695	
Constant	2.304***		1.948***		2.400***	

***p<.001; **p<.01 *p<.05; $^{+}$p<.10; standard errors in parentheses

Table 14. OLS Regression of Post-Secondary Diversity on Racial Bridging Ties in Friendships (N=29)

	I		II		III	
Predictors	b	B	b	B	b	B
Metro Diversity	.798***	.807	.880***	.891	.507***	.165
	(.112)		(.106)			
Higher Ed. Diversity			1.132**	.283	1.079	.269
			(.431)		(.653)	
Economic Inequality, 1990					.130	.010
					(1.732)	
South					.024	.036
					(.112)	
(ln)Population Density, 1997					.056	.208
					(.052)	
F	50.593***		34.280***		13.001***	
R^2	.639		.704		.682	
Constant	.841***		-.257		-.524	

***p<.001; **p<.01 *p<.05; $^{+}$p<.10; standard errors in parentheses

Moderation Analyses: Economic Inequality

Previous literature has established that the relationship between diversity and social cohesion in communities is influenced by relative socioeconomic status of the community (Letki 2008; Phan 2008; Laurence 2011; Gisjbert et al. 2012; Krivo et al. 2013). The present study utilizes moderation techniques to assess how the impact of institutional diversity on social cohesion may depend on the relative level of economic inequality, which I use as a proxy for community socioeconomic status. The metropolitan areas in the sample were divided into groups of "high" economic inequality, and "low" economic inequality, using the 1990 Gini index of income inequality. The cut-point demarcating the two groups is at the midpoint of the frequency distribution; 15 out of the 29 communities in the sample have a Gini index of less than .427, and were categorized as "low" in economic inequality. The remaining 14 communities had a 2000 Gini index of greater than .427, and were categorized as "high" in economic inequality.

Social cohesion

Table 15 displays results for this analysis predicting racial trust. Results show that the impact of neighborhood diversity differs for metropolitan communities with low and low levels of economic inequality. For areas with "low" economic inequality (a Gini index below .427), compared to other communities in the sample, neighborhood diversity exerts a significant positive impact on racial trust ($b=.382$, $p<.05$), net of macro-level diversity. Once regional effects and population size are accounted for in the model, the initial negative impact of metro area diversity is eliminated and is no longer a significant predictor of racial trust. Specifically, among low inequality communities, a one unit increase in neighborhood diversity is associated with an approximate .457

increase in aggregate levels of racial trust (p<.01). For communities categorized as "high" in economic inequality, neighborhood diversity seems to operate differently. In model II controlling for macro-level diversity, neighborhood diversity exerts a positive impact on social cohesion (b=.618, p<.01). However, once regional effects and population size are controlled (model III), neighborhood diversity is no longer significant.

In Table 16, we see that economic inequality also moderates the relationship between school diversity and racial trust. In model I, metro diversity significantly reduces aggregate levels of racial trust (B=-.307, p<.001) for communities with low economic inequality. When school diversity and other controls are included in the model, however, the initial statistically significant effect of metro-area diversity on racial trust is no longer present. Indeed, among communities characterized by "low" economic inequality, school diversity exerts the largest positive impact on racial trust. In contrast, among communities "high" in economic inequality, the negative impact of metropolitan diversity on racial trust is not significantly mediated by school diversity.. The same models were run examining the moderating impact of economic equality on the relationships between neighborhood and school diversity and racial bridging ties (results not shown), and results indicated that the impact of diversity on racial bridging were not significantly moderated by economic inequality.

Economic Productivity

Moderation analyses were also performed for the three economic outcomes. First, I estimated the effects of school and neighborhood diversity on 2010 per capita GDP and residential segregation by skill (2010) within "low" vs. "high" economic inequality communities. Results for these analyses, which are not displayed, did not show any

Table 15. Moderation Analyses of Neighborhood Diversity on Racial Trust[a] (N=29)

	Low Economic Inequality					
	I		II		III	
Predictors	b	B	b	B	b	B
Metro Diversity	-.307***	-.803	-.191*	-.500	-.067	-.176
	(.060)		(.071)		(.101)	
Neighborhood Diversity			.382*	.471	.457*	.563
			(.151)		(.153)	
South					-.124*	-.415
					(.054)	
R-squared	.615		.734		.819	
	High Economic Inequality					
	I		II		III	
Predictors	b	*B*	b	*B*	b	*B*
Metro Diversity	-.252**	-.733	-.201**	-.586	-.372**	-1.082
	(.065)		(.050)		(.092)	
Neighborhood Diversity			.618**	.504	.310	.252
			(.178)		(.239)	
South					-.057	-.279
					(.042)	
R^2	.502		.731		.779	

***p<.001; **p<.01 *p<.05; $^{+}$p<.10; standard errors in parentheses.

Table 16. Economic Inequality Moderation Analyses of School Diversity on Racial Trust[a] (N=29)

	Low Economic Inequality					
	I		II		III	
Predictors	b	*B*	b	*B*	b	*B*
Metro Diversity	-.307***	-.803	-.250**	-.655	-.111	-.290
	(.066)		(.072)		(.122)	
School Diversity			.197	.292	.293^{+}	.433
			(.128)		(.156)	
South					-.137^{+}	-.458
					(.064)	
R-squared	.615		.655		.740	
	High Economic Inequality					
	I		II		III	
Predictors	b	*B*	b	*B*	b	*B*
Metro Diversity	-.252**	-.733**	-.257***	-.749	-.416**	-1.212**
	(.065)		(.053)		(.086)	
School Diversity			.416*	.423	.129	.131
			(.151)		(.179)	
South					-.077^{+}	-.375
					(.040)	
R^2	.502		.668		.755	

***p<.001; **p<.01 *p<.05; $^{+}$p<.10; standard errors in parentheses.

significant moderating effects, which is somewhat expected given the lack of significance of economic inequality for these outcomes in the mediation analyses. However, economic inequality does seem to significantly moderate how neighborhood diversity impacts economic productivity with regard to the education gap index. Table 17 presents unstandardized (b) and standardized (B) beta coefficients for moderation models estimating values of the average metropolitan education gap index for 2010-2012. In these models, sample size is reduced to N=22 metropolitan areas, since values for the education gap index are not available for 7 communities in the sample. Fortunately, there is a relatively equal amount of cases for each category of economic inequality (12 "low" and 10 "high"). Among metropolitan areas categorized as "low" in economic inequality compared to areas with higher inequality, the initial bivariate regression model shows a that metro diversity widens the education gap index; a one unit increase in a metropolitan areas' macro-level diversity score is associated with a .044 increase in the education gap index, without considering the impact of institutional diversity or regional effects ($b=.044$, $p<.10$). However, once neighborhood diversity, population density, and regional effects are introduced in the model (III), the negative impact of metro diversity is eliminated, and neighborhood diversity proves to be not only a significant factor in predicting a more balanced labor market in terms of the education gap index, but also the coefficient with the greatest magnitude ($B=-.705$) net of metropolitan diversity and other factors. This means that neighborhood diversity is positively associated with producing a labor force with the necessary educational attainment to fit the average job vacancy. The same moderation analyses were performed for models with K-12 school diversity, and the results show similar patterns (see Table 18). School diversity also proves to be a

stronger predictor than metro diversity of the education gap index (b=-.082, p<.10), but only among communities categorized as "low" in economic inequality. Specifically, in communities with low economic inequality, a one unit increase in school diversity is associated with a .082 decline in the education gap index.

Results for the same models for communities "high" in economic inequality are inconclusive; metro diversity has a negative effect on the education gap index (b=.091, p<.10), net of other factors. However, these models do not have adequate model fit (omnibus tests of model fit were not significant F=1.649, p=.278), indicating that these indicators are not consistent in predicting economic productivity among communities with "high" economic inequality. The models displayed in Tables 17 and 18 were also estimated using the full set of regional indicators (Northeast, West, Midwest compared to South), which also did not yield conclusive results. The absence of a statistically significant relationship between diversity and social cohesion and economic productivity net of metropolitan diversity, across communities "high" in economic inequality, may point to the trenchant effects of economic inequality in access to equitable education and labor market opportunities. These inconclusive findings may also be a symptom of inadequate sample size.

Moderation Analyses: Meso-level Diversity

Macro-level diversity exerts consistently significant effects on the dependent variables of this study, and this effect is negative when analyzing attitudinal dimensions of social cohesion. Mediation analyses reveal, however, that net of the negative impact

Table 17. Economic Inequality Moderation Analyses of Neighborhood Diversity on the Education Gap (N=22)

	Low Economic Inequality					
	I		II		III	
Predictors[a]	b	B	b	B	b	B
Metro Diversity	.044^{+}	.555	.036^{+}	.457	.013	.164
	(.022)		(.019)		(.030)	
Neighborhood Diversity			-.077^{+}	-.508	-.107^{+}	-.705
			(.036)			
South					.020	.510
					(.015)	
R-squared	.231		.445		.456	
	High Economic Inequality					
Predictors[a]	b	B	b	B	b	B
Metro Diversity	.019	.233	.019	.239	.095^{+}	1.187
	(.026)		(.025)			
Neighborhood Diversity			-.102	-.376	-.008	-.031
			(.086)		(.107)	
South					.005	.120
					(.025)	
R^2	-.051		-.006		.171	

***p<.001; **p<.01 *p<.05; $^{+}$p<.10

[a]Constant terms and coefficients for population size (n.s.) not shown.

Table 18. Economic Inequality Moderation Analyses of the Impact of School Diversity on the Education Gap Index (N=22)

	Low Economic Inequality					
	I		II		III	
Predictors[a]	b	B	b	B	b	B
Metro Diversity	.044^{+}	.555	-.044*	.556	.033	.416
	(.022)		(.021)		(.029)	
School Diversity			-.046	-.385	-.082^{+}	-.689
			(.031)		(.035)	
South					.021	.542
					(.016)	
R-squared	.231		.320		.501	
	High Economic Inequality					
	I		II		III	
Predictors[a]	b	B	b	B	b	B
Metro Diversity	.019	.233	.029	.358	.091^{+}	1.141
	(.026)		(.025)		(.072)	-.198
School Diversity			-.094	-.494	-.038	.011
			(.059)		(.072)	
South					.000	.011
					(.023)	
R^2	-.051		.103		.206	

***p<.001; **p<.01 *p<.05; $^{+}$p<.10

[a]Constant terms and coefficients for population size not shown (n.s.)

of macro-diversity, diversity in schools and neighborhoods are positively associated with these outcomes. To further explore these patterns, we ask: does the effect of macro-level diversity vary under certain conditions of meso-level diversity? The following analyses examine how metropolitan diversity effects may be moderated by school and neighborhood diversity. Previous results of the positive mediating impact of meso-diversity on social cohesion and economic outcomes lead us to predict that, under more diverse institutional conditions (high meso-diversity), (1) the negative effects of macro-diversity would be lessened, and (2) positive effects of macro-diversity would be amplified.

To split the sample into groups of "high" and "low" meso-diversity, I used a combined index of school and neighborhood diversity. I determined the median value for the distribution of the meso-diversity index, which was approximately 1.10. All communities with a value of meso-diversity 1.10 or lower were categorized as "low" in meso-diversity; communities with a meso-diversity value greater than 1.10 were categorized as "high" in meso-diversity. Table 19 displays these results for each dependent variable, for models with and without control variables.

For most outcomes, the effects of macro-diversity vary depending on the level of school and neighborhood diversity. In the mediation analyses, macro-diversity exerted a significant *positive* impact on racial bridging ties. These results show that, among communities with high levels of diversity in schools and neighborhoods, the positive effects of macro-diversity are in fact stronger. Specifically, for high meso-diversity communities, an increase in macro-level diversity is associated with a .978 increase in racial bridging ties through friendship, and a .733 increase in racial bridging ties through

group involvement. In contrast, macro-diversity also has a positive impact on racial bridging ties in friendships (b=.571, p<.001) and group involvement (b=.474, p<.001) among low meso-diversity communities, but the magnitude of these effects is not as great.

For economic outcomes, results are as expected, with the exception of per capita GDP. The overall impact of macro-diversity on economic productivity is positive, but results in Table 19 show that, net of other factors, the macro-diversity effect is stronger in communities with higher levels of diversity in schools and neighborhoods compared to communities with less diverse schools and neighborhoods (b=20.575, p<.10, compared to b=18.714, p<.05, respectively). The negative effects of metropolitan diversity on the skills gap among high meso-diversity communities (b=13.627, p<.001), is smaller than the same relationship in low meso-diversity communities: b=16.494, p<.001). The statistical significance of these coefficients disappears when control variables are added, yet the relative strength and direction of the coefficients between the two groups follows the same pattern. Results for models predicting the education gap index were less clear; the only statistically significant patterns were found in low meso-diversity groups, with macro-diversity increasing the education gap. The sample size for these models, however, is only 12 communities, thus these results should be interpreted with caution.

Two indicators of social cohesion that were not significant in the mediation models nor the economic inequality moderation models, showed significant results in the present moderation models examining the impact of diversity across high- and low-meso diversity groups. Aggregate levels of the sense of belonging respondents feel toward both their neighbors and their city are positively associated with macro-level diversity, only in

communities with higher levels of diversity in schools and neighborhoods. Specifically, macro-diversity exerts a significant positive impact on sense of belonging among high meso-diversity communities (b=.065, p<.05 for sense of belonging through city; b=.072, p<.01 for sense of belonging through neighbors).

As in the mediation models, no significant patterns were revealed in the moderation models predicting trust in national government. However, we do see perplexing results for trust in local government. Previous analyses show a non-significant impact of macro-diversity on trust in local government, and a positive influence of institutional diversity. However, the results in Table 19 show that macro-diversity is negatively associated with trust in local government, but only among high meso-diversity communities. These results are surprising, and are not in line with previous findings for the same outcomes.

Similar phenomena may be impacting results for social trust and racial trust, attitudinal dimensions of social cohesion, for which the moderating impact of meso-diversity on macro-diversity effects is also surprising and contrary to expectations. Results show that, net of other factors, macro-diversity exerts a potentially greater negative effect on racial trust under conditions of high meso-diversity, compared to low meso-diversity. Given the positive impact of meso-level diversity on racial trust in previous analyses, this finding is surprising. Among the 16 communities categorized as high meso-diversity, the mean racial trust is 2.10, slightly larger than the full sample mean of 2.07. Low meso-diversity communities have a mean racial trust level of 2.03. High meso-diversity communities have overall more racial trust. When we look at the overall macro-diversity of each group, we see that high meso-level diversity communities

actually have *less* race/ethnic diversity at the macro-level than the low meso-diversity communities (.77 compared to .86, respectively—macro-diversity ranges from 0-1.39). Thus, there is a chance that outliers among the high meso-diversity communities may be impacting the results. A scatterplot of macro- and meso-diversity for high meso-diversity communities show that the two most homogenous communities (lowest macro-diversity) are also the two that have the highest values for meso-diversity as well. These communities are Lewiston-Auburn, ME and Bismarck, ND. However, results show that once these communities are removed from analysis, the effects of macro-diversity on racial trust among high meso-diversity communities are actually larger (-.405 compared to -.422, respectively). The moderating impact of meso-diversity on attitudes towards interracial marriage was also estimated, but yielded inconclusive results. The inconsistency of these patterns with those revealed in previous analyses is potentially a symptom of data limitations, such as small cell sizes that could impact OLS regression calculations, given that the sample is reduced by almost half for this moderation analysis.

(See table 19, next page.)

Table 19. Macro-Diversity Effects on Dependent Variables, with Moderating Impact of Meso-level Diversity (N=29)

	High Meso Diversity		Low Meso Diversity	
Outcome	(no controls)	(with controls)	(no controls)	(with controls)
Race Bridging in Friendships	.978***	.697*	.571***	.686*
Race Bridging in Groups	.733***	.543**	.474***	.447*
Racial Trust	-.290***	-.405***	-.252***	.021
General Social Trust	-.302**	-.258^{+}	-.381***	-.024
Trust in Local Government[a]	-.188*	-.160*	-.048	.058
Trust in National Government	.062	.005	.110	.042
Sense of Belonging (through neighbors)	.072**	.035	.016	.000
Sense of Belonging (through city)	.065*	.045	.032	.028
Per Capita GDP[a]	18.278*	20.575^{+}	21.763***	18.714*
Skill Segregation	13.627***	8.174	16.494***	3.976
Education Gap Index[a]	.003	.046	.054**	.039*

***p<.001; **p<.01 *p<.05; $^{+}$p<.10

[a]Controls are region (south) and Gini index of inequality. Collinearity diagnostics showed that the Variance Inflation Factors for region, population size, and macro diversity were very high (greater than 3). Once population size was removed and one dummy for region was used instead of 3, the model fit improved significantly

As an alternative, in Table 20 I present conditional associations between macro-level diversity and the dependent variables, by high- and low-levels of meso diversity. Results reported in Table 20 show the zero-order correlations between macro-level diversity and the dependent variables, across the two categories of the moderating variable, meso-level diversity. The associations between macro-diversity and the dependent variables are all in the expected direction, with the exception of racial bridging through friendships. Specifically, the negative associations between of metropolitan diversity and racial trust and social trust are weaker among communities with greater diversity at the meso-level compared to communities with a low level of meso-diversity. The same patterns are present for the other dimensions of social cohesion, most notably for racial bridging through individuals' "most important" group. Among low meso-diversity communities, macro-level diversity is positively associated with race bridging in group membership ($r=.860$, $p<.01$). This correlation increases among communities with greater diversity in schools and neighborhoods ($r=.920$, $p<.01$). These analyses are uncontrolled, yet these results underscore the positive association between meso-level diversity and social cohesion at the community level.

Macro-level diversity is positively correlated with per capita GDP 2010 ($r=.810$, $p<.01$) for communities with lower levels of meso-diversity. Contrary to expectations, this relationship is weaker among communities with greater school and neighborhood diversity ($r=.510$, $p<.01$). It is important to recall, however, that while per capita GDP is a direct measure of economic productivity, it is a less adequate measure for assessing the impact of diversity on the economic well-being of people since per capita GDP cannot account for the distribution of economic benefits across demographic and social status

lines. For the indicators of economic well-being, with the exception of the average education gap index, results show that macro-diversity overall is negatively associated with residential segregation by skill, but the magnitude of this effect is weaker among communities with greater diversity in schools and neighborhoods (r=.776, p<.01) compared to those with lower levels of school and neighborhood diversity (r=.897, p<.01).

Table 20. Conditional Relationship between Macro-Diversity and Dependent Variables

	Meso Diversity	
	High	Low
General Social Cohesion		
Social Trust	-.674**	-.868***
Informal Social Interactions	-.632**	-.673*
Neighbors Give Sense of Belonging	.637**	.236
City Gives Sense of Belonging	.568*	.396
Trust in Local Government	-.507*	-.157
Trust in National Government	.279	.450
Organizational Activism	-.081	-.219
Bridging Social Cohesion		
Racial Trust	-.786**	-.825**
Race Bridging-Friendships	.854**	.887**
Race Bridging - Group Membership	.920**	.860**
Attitudes toward Interracial Marriage	.272	.245
Economic Productivity & Well-Being		
Per Capita GDP 2010	.506*	.810**
Skill Segregation 2010	.776**	.897**
Education Gap 2010-12	.048	.797**

***p<.001; **p<.01; *p<.05

Combined Effects of School and Neighborhood Diversity

To explore a more parsimonious representation of the effects of institutional diversity on social cohesion and economic productivity, the final analyses present results using a combined index of school and neighborhood diversity. This index was calculated

by adding the separate indices of school and neighborhood diversity, then dividing that value by 2, yielding an average measure of institutional (school and neighborhood) diversity. These results are presented in Tables 21 and 22. For each indicator of social cohesion examined, the combined or average effects of school and neighborhood diversity are positively associated with the social cohesion measures. In some cases, the effect of institutional diversity reveals a higher level of statistical significance. In model I in Table 22, which presents results with racial trust as the dependent variable, results show that institutional diversity is associated with higher racial trust, net of metro diversity and other factors. The combined institutional diversity index is predicted to increase racial trust by approximately .235 ($p<.001$). In terms of statistical significance, there is a lower probability that this relationship is due to chance, compared to the separate impact of school diversity ($b=.263$, $p<.01$, Table 3). Compared to the impact of the specific neighborhood diversity index ($b=.404$, $p<.001$, Table 3), however, the combined effect of school and neighborhood diversity is slightly lower ($b=.235$, $p<.001$). The neighborhood index, for all indicators of economic productivity and well-being, and social cohesion (with the exception of racial trust), is not outweighed in effect size by the combined index of institutional diversity. In most cases, excluding the models predicting the education gap index, the school diversity index is outweighed by the combined institutional diversity index. On the surface, this might suggest that neighborhood diversity, statistically, is more important than school diversity as a correlate of social cohesion and economic productivity. However, such a conclusion would be unwarranted because schools are nested within neighborhoods, which makes it difficult to disentangle neighborhood from school effects. Additionally, the foregoing analyses clearly point out

that both school *and* neighborhood diversity are important factors to the overall social and economic well-being of U.S. communities.

Table 21. Full Model OLS Regression Results for Institutional Diversity and Economic Productivity and Well-Being (N=29)

	I *Per Capita GDP (2010)*		*II* *Skill Segregation (2010)*[a]		*III* *Education Gap Index (2010-12)*[a,b]	
Predictors	b	B	b	B	b	B
Metro Diversity	5.039	.151	.069+	.385	.050*	.664
	(7.277)		(.034)		(.022)	
			-		-.061*	-.508
Institutional Diversity	20.511*	.356	.085*	-.272		
	(8.420)		(.040)		(.027)	
(ln)Population density,					-.011	-.531
1997	5.797**	.644	.013	.260		
	(1.994)		(.009)		(.008)	
F	25.309***		15.644***		4.165***	
R^2	.813		.723		.475	
Constant	-22.347***		-.193		1.147***	

Table 22. Full Model OLS Regression Results for Institutional Diversity and Social Cohesion (N=29)

	I *Racial Trust*		*II* *Race Bridging through Friendships*		*III* *General Social Trust*		*IV* *Race Bridging through Important Group*		*V* *Trust in Local Government*	
	b	B	b	B	b	B	b	B	b	B
Metro Diversity	-.253***	-.698	.633**	.182	-.219*	-.467	.458***	.645	.034	.098
	(.055)		(.182)		(.094)		(.099)		(.082)	
Meso Diversity	.235***	.376	.512*	.300	.265*	.328	.058	.047	.195*	.324
	(.055)		(.200)		(.103)		(.109)		(.090)	
Economic Inequality	-1.042*	-.227	-.005	.000	-1.615+	-.272	1.609+	.179	-1.800*	-.407
	(.468)		(1.551)		(.804)		(.847)		(.697)	
South	-.047+	-.191	-.034	-.050	-.061	-.194	-.081+	-.170	-.117**	-.497
	(.024)		(.081)		(.042)		(.044)		(.036)	
Pop. Size	.015	.157	.088+	.328	-.008	-.064	.041	.216	-.027	-.290
	(.015)		(.050)		(.026)		(.027)		(.023)	
F	25.309***		15.644***		12.301***		30.492***		7.901***	
R^2	.813		.723		.669		.840		.552	
Constant	2.245***		-.193		. 639+		.975**		2.099***	

***p<.001; **p<.01 *p<.05; +p<.10; standard errors in parentheses

CHAPTER 6

DISCUSSION AND CONCLUSION

Previous research has examined how race/ethnic diversity in social settings impacts individuals; however, few studies have assessed both the macro and meso level impact of diversity on social and economic outcomes in community or societal contexts. Previous research has also shown that the institutional context of diversity matters significantly for the social and economic well-being of communities, yet the way it matters is unclear because the evidence is mixed. This study sought to expand the knowledge base and fill existing gaps by addressing three research questions: (1) Does meso diversity, net of macro diversity, affect community social cohesion and economic productivity?; (2) Is the effect of macro (metropolitan) diversity on community social cohesion and economic productivity mediated by meso (institutional) diversity; (3) Is the effect of macro (metropolitan) diversity on community social cohesion and economic productivity conditional on meso (institutional) diversity or economic inequality?

Existing literature has documented both positive and negative effects of macro- and meso-level diversity on social cohesion. This study, which examines diversity effects at both analytical levels, finds that macro and meso diversity, net of other factors, play a crucial role in shaping social cohesion and economic productivity and well-being in metropolitan areas. Interestingly, the results show that diversity at the macro-level is negatively associated with attitudinal dimensions of social cohesion (racial trust, social trust), but is positively related to behavioral dimensions (racial bridging ties) of social cohesion. With regard to the economic outcomes studied, macro-diversity increases economic productivity, yet decreases economic well-being. In contrast, meso-level

diversity in K-12 schools, neighborhoods, and post-secondary education institutions exert consistent *positive* effects on social cohesion and economic productivity and well-being, net of macro-level diversity[3] and other statistical controls.

Table 23 provides a summary of the results for the mediation analyses. The first column of this table shows that across seven indicators, when diversity is examined at the **metropolitan** level, the results, offer only *mixed evidence* regarding the argument that diversity undermines social cohesion (three of six significant macro diversity effects indicated that more diverse communities were less cohesive). Moreover, when diversity is examined at the **metropolitan** level, the results, across three indicators, *offer no evidence* for the argument that diversity undermines economic productivity; and *mixed evidence* regarding economic well-being (macro diversity effects indicated that more diverse communities were more economically productive, yet have less economic well-being than less diverse communities). Analysis of the effects of meso or institutional diversity examined both schools and neighborhoods. The second column of the table shows that when institutional diversity is examined at the **school** level, the results, across seven indicators, offer *consistent evidence* regarding the argument that diversity enhances social cohesion (all five significant meso diversity effects indicated that communities with diverse schools were more cohesive). Additionally, when institutional diversity is examined at the **school** level, the results, across three indicators, offer *consistent evidence* for the argument that school diversity enhances economic productivity and well-being (all three significant meso diversity effects indicated that communities with diverse

[3] K-12 school and neighborhood diversity is positively related to all social and economic indicators, though some relationships are not statistically significant.

schools were more economically productive and experienced greater economic well-being than communities with racially isolated schools).

Table 23. Summary of Macro and Meso Diversity Effects[a] on Metropolitan Social Cohesion and Economic Well-Being and Economic Productivity

	Macro Diversity (2000)	Meso Diversity (2000)	
Social Cohesion (2000)	*Metropolitan Areas*	*K-12 Schools*	*Neighborhood*
Social Trust	-	+	+
Racial Trust	-	+	+
Trust in Local Government		+	
Informal Interactions	-		
Interracial Bridging Ties - Friendship	+	+	+
Interracial Bridging Ties – "most important" group[b]	+		
Social Distance	+	+	+
Economic Outcomes (2010)			
Per Capita GDP	+	+	+
Skill Segregation	-	+	+
Education Gap	-	+	+

[a]Note: (**+**) indicates that higher diversity is positively associated with outcomes; (**-**) indicates that higher diversity is negatively associated with outcomes.
[b] "most important" group refers to any social group, such as a club or community organization.

The third column of the table shows that when institutional diversity is examined at the **neighborhood** level, the results, across seven indicators, also offer *consistent evidence* in support of the argument that diversity enhances social cohesion (all four significant meso diversity effects indicated that communities with diverse neighborhoods were more

cohesive). Additionally, when institutional diversity is examined at the **neighborhood** level, the results, across three indicators, offer *consistent evidence* for the argument that diversity enhances economic productivity and well-being (all three significant meso diversity effects indicated that communities with diverse neighborhoods were more economically productive and experienced greater economic well-being than communities with racially isolated neighborhoods). Thus, just five of thirty significant (macro and meso) diversity effects across seven indicators of social cohesion and three indicators of economic productivity and well-being, support the argument that race-ethnic diversity undermines community well-being. On balance, the findings of this study not only challenge the argument that diversity is divisive (Putnam 2007), but the findings offer strong support for the counterargument that institutional diversity can be a compelling state interest.

Subsequent moderation analyses reveal particular nuances of this relationship; under conditions of high meso (school and neighborhood) diversity, and high economic equality, the negative effects of macro-level (metropolitan) diversity are weakened. Specifically, across the attitudinal dimensions of social cohesion (racial trust), with which metropolitan diversity was negatively associated, under conditions of high-meso diversity and economic equality, this negative impact was lessened. In some instances, the positive effect of institutional diversity exceeds the negative effect of metropolitan diversity.

This chapter proceeds with an explanation of the key findings of this study. First, I begin with the analysis of meso-level diversity as a mediator of the relationship between macro-level diversity and the dependent variables. Second, I discuss key findings of the moderation analysis, which assessed (1) how the relationship between diversity and the

dependent variables is contingent upon relative community economic inequality, and (2) how the influence of macro-level diversity on the dependent variables may vary with the relative level of meso-level diversity in each community. Third, I discuss the combined effects of K-12 school and neighborhood diversity on the dependent variables, and then summarize the findings. The next section considers potential limitations to the study, such as data constraints and analytical procedures that may have affected the results. Finally, I conclude with a discussion of potential policy implications of this study, as well as ideas for future research.

Diversity and Social Cohesion

Because social cohesion is a multidimensional concept whose operational treatment in the social sciences varies considerably, I included as many indicators of the concept as the data allow. The indicators are based on the definition of social cohesion put forth by Chan and colleagues (2006); ten different variables which reflect various dimensions of social cohesion were analyzed, plus an additional social psychological variable, attitudes towards interracial marriage, which offered a different and complimentary perspective on social cohesion in a diverse society. Of the ten social cohesion indicators examined, six were found to be significantly associated with diversity: racial bridging through friendships, racial bridging through respondents' "most important" group, racial trust, general social trust, informal sociability, and trust in local government. The racial bridging and racial trust indicators were found to be the dimensions of social cohesion which yielded the most consistent and compelling results, and thus were discussed in greater detail. Additionally, racial bridging indicators and

racial trust indicators are not only indicators of social cohesion in general, but potentially reflect intergroup social cohesion, which is the primary focus of this study.

In simple bivariate regression analyses across attitudinal indicators of social cohesion, most notably general trust and racial trust, metropolitan areas with a more racially and ethnically diverse population were shown to have lower social cohesion overall, which is consistent with previous work (Alesina and La Ferrara 2002; Costa and Kahn 2003; Delhey and Newton 2005; Putnam 2007), and is consistent with the racial threat hypothesis (Rudolph and Popp 2010; Taylor 1998). These studies raise concerns that immigration and increasing diversity might undermine the nation's social cohesion (Reich 1999; Fukuyama 2000; Putnam 2007, Castells 2010). However, other studies suggest that in diverse communities it becomes especially important to understand how to structure or manage diversity at the institutional level—in schools and neighborhoods (Braddock and Gonzalez 2010; Uslaner 2011). In the present study, we find that when school and neighborhood diversity are introduced in the regression models predicting trust, meso-level diversity *increases* trust, net of metropolitan diversity and other factors. Additionally, these results suggest that, overall, diversity as a threat to social cohesion may only hold at the *attitudinal* level, since macro- and meso-level diversity across all indicators has *positive effects* on the behavioral dimensions of social cohesion. These results suggest that without taking into account how race/ethnic groups are structurally incorporated into key social institutions like schools and neighborhoods, claims of diversity as a threat to the social good may be unfounded.

Racial trust is just one of several attitudinal dimension of social cohesion examined in this study. In addition to racial trust, macro-level diversity is negatively

associated with general social trust, yet positively related to trust in local government. Models predicting the other social cohesion indicators, sense of belonging through neighbors and city, trust in national government, and organizational activism, were not significant in the models, though the bivariate associations between these social cohesion indicators and macro-level diversity were positive. To summarize, it seems that macro-level diversity is more consistently a *negative* influence on attitudinal dimensions, yet more consistently *positive* for behavioral dimensions. Meso-level diversity, on the other hand, exerts a consistently *positive* impact on all dimensions of social cohesion, regardless of type, with the exception of models predicting informal sociability (these coefficients are not significant, yet in the negative direction).

Racial bridging ties

Perhaps one of the most crucial findings of the present study is the pattern observed for the impact of diversity on racial bridging ties. Unlike the analyses of other attitudinal measures, which were negatively related to macro-level diversity, the findings show that metropolitan diversity consistently exerted a strong and positive impact on racial bridging ties through friendships and racial bridging ties through respondents' "most important" group. Meso-level diversity proved to be a significant factor to increase racial bridging ties through friendships, although the impact of meso-diversity on racial bridging ties through informal groups did not reach statistical significance.

These results suggest not only the importance of distinguishing between different types of social cohesion in future research, but also highlight important differences between concrete and abstract judgments or perceptions of out-groups. An individual's generalized trust towards out-groups in general may have nothing to do with their own

specific and subjective personal relationships. Further analysis of the relationship between diversity of friendships and racial trust showed that net of metropolitan diversity, racial bridging ties are positively associated with racial trust, which is consistent with the contact hypothesis: positive intergroup contact can reduce prejudice towards out-groups in general (Allport 1954; Pettigrew 2008). The significant influence of racial bridging ties on trust does not persist when meso-level diversity and other controls are accounted for, yet the coefficients remain in the positive direction.

These findings offer further support for the beneficial effect of positive intergroup contact on reducing interracial/ethnic tensions. This study finds that racial bridging ties formed through friendships potentially increase individuals' likelihood of having more positive views of other race/ethnic groups in general, which is consistent with previous studies that find a positive relationship between racial bridging ties and racial trust, particularly in less segregated neighborhoods (Uslaner 2010; Laurence 2011). The lack of statistical significance of this relationship when holding other factors constant may likely be a function of the small sample size and lack of statistical power, a claim that future research could verify. Although we cannot comment on the nature, quality, or specific context of interracial friendships or of respondents' interactions with diverse others within their "most important group," these indicators are nevertheless evidence of racial bridging social ties (Briggs 2003) or bridging social capital (Putnam 2000). Racial bridging ties arguably reflect "actual" intergroup contact, since they reflect respondents' behaviors, as opposed to attitudes or social psychological orientations towards outgroups (Gundelach and Freitag 2014).

These findings provide support for intergroup contact theory, which assumes that the possibility of cultivating positive intergroup relations is largely contingent upon the availability of opportunities to cultivate such ties, which is most likely to happen within diverse social settings. Although intergroup contact theory specifies four conditions necessary for positive group contact to lead to improvements in intergroup relations that this study does not directly measure – equal status between groups, cooperation, common goals, and institutional support – that the positive impact of school and neighborhood diversity shown here nevertheless reflects supportive institutional conditions, particularly since school and neighborhood diversity is measured through multi-group indices of desegregation. Insofar as school and neighborhood desegregation are good indicators of the potential for intergroup contact, albeit an indirect or proxy measure, it is clear from this study that school and neighborhood diversity can have an overall positive impact on social cohesion in diverse metropolitan communities.

Another interesting finding of this study is the impact of diversity on average community-level trust in local government. The full model predicting trust in local government is the only social cohesion model in which the coefficient for macro-level diversity does not reach statistical significance. The survey item measuring trust in local government does not have a specific referent to any specific branch or division of government, nor does it refer specifically to any type of government action or role. Nevertheless, this finding suggests that school and neighborhood diversity may be significantly associated with greater tolerance and inclusion in local communities, since these results show that communities that are more diverse at the meso-level are more likely to believe that their local governments will do what is right. In turn, residents in

diverse communities who trust their local government to do what is right may have more faith in the local government to represent their interests. At this point we cannot determine, however, whether or how trust in government may vary by race/ethnicity.

Taken together, the mediation analyses show that school and neighborhood diversity effects on social cohesion, economic productivity, and economic well-being are generally different than overall macro-diversity effects. While the positive effects of meso-level diversity do not completely offset the macro-diversity effects in the mediation models, they are nonetheless significant factors in shaping social cohesion in positive ways.

Diversity and Economic Productivity and Well-Being

Large, diverse metropolitan areas are often economically prosperous. Diversity allows for the exchange of knowledge and ideas among a citizenry representing a wide array of backgrounds and perspectives, which encourages innovation and economic growth (Lee 2011; Grafton, Kompas, and Owen 2004; Florida 2004). In such communities, however, there is also the important concern of the equitable integration of all people within the key social and economic institutions that drive economic prosperity (Charles 2001; Portes 2006; Mickelson and Nkomo 2012). Previous research has highlighted both positive and negative effects of diversity on economic productivity and well-being (Grafton, Kompas, and Owen 2004; Ottaviano and Peri 2004; Sparber 2007b; Sparber 2007c; Li et al. 2013). This study analyzed one direct indicator of economic productivity, and two indicators of economic well-being. Economic productivity— measured using per capita GDP for 2010— reflects a metropolitan area's gross product based on national prices for the goods and services produced in the area. Results show

that economic productivity of metropolitan areas is positively related to diversity at both the macro and micro level. However, when analyzing per capita GDP, the high correlation between population size and macro-level diversity introduced significant problems of multicollinearity, and thus population size was excluded from this part of the analyses. The results produced with the limited model are compelling nonetheless.

As expected, metropolitan diversity measured at year 2000 is associated with increased economic productivity in 2010, net of regional effects. Meso-level diversity, net of metro diversity, also increases economic productivity, and the magnitude of its effect is larger than that of macro-level diversity. These results suggest that school and neighborhood diversity are crucial to community economic productivity above and beyond the influence of metropolitan diversity *per se*. These results are consistent with the existing literature showing that diversity enhances economic productivity in U.S. cities and metropolitan areas (Ottaviano and Peri 2004; Sparber 2007b; Sparber 2007c). The present study, by examining diversity at both the macro- *and* meso-levels, suggests that integration of schools and neighborhoods indirectly enhance communities' economic resources and infrastructure to facilitate economic growth. While the specific mechanisms underlying this relationship are not directly examined in the present study, they may have broad implications at the societal level.

Residential segregation by skill, or what is referred here to as the "skills gap," reflects the evenness of distribution, by place of residence, of people of high- or low-skilled occupations. In theory, a neighborhood with an overrepresentation of low-skilled workers is economically stagnant, since poorer communities likely have lower quality educational opportunities and limited job opportunities, and are not attractive or desirable

communities to higher skilled and higher educated people (Benabou 1993). Higher educated and higher skilled people are in turn segregated in more affluent communities, which are thus deprived of a low-skilled labor force. The lack of quality labor opportunities in poorer communities creates disincentives for poor, minority residents to invest in education, further reproducing the skill gap and economic inequality for the entire metropolitan area. The results of this study show that low levels of diversity in schools and neighborhoods exacerbate the skills gap further. Li and colleagues (2013), in turn, found that the skill gap decreases, on average, overall earnings across metropolitan areas. The present study reveals that if diversity is more equitably distributed across schools and neighborhoods, the economic well-being of entire communities is enhanced through a narrowing the skill gap. This finding is consistent with past research that suggests desegregation leads to a more equitable distribution educational and occupational opportunities and resources (Massey and Denton 1993; Briggs 2005). These findings suggest that the benefits of institutional diversity extends beyond their positive impact on individuals in terms of educational and occupational attainment, and serves to increase economic well-being of entire communities.

The education gap index reflects the disparity between the average educational attainment of the work force and the educational attainment requirements of the average job opening (for years 2010-2012). Results for the education gap index are similar to patterns observed for the skills gap and provide additional evidence of the potential benefit that school and neighborhood diversity can have on educational attainment and employment at the metropolitan level. The average education gap index for 2010-2012 measures the disparity between the educational requirements for the average job opening,

and the availability of workers within the same area with the adequate educational attainment to fill those openings (Rothwell 2012). The bivariate analysis of macro-diversity and the education gap index show that macro-level diversity is associated with larger education gaps. On the other hand, analyses of the impact of school and neighborhood diversity show that meso diversity reduces the negative effect of macro-diversity on the education gap, by potentially expanding educational and occupational opportunities for more residents in metropolitan communities. Taken together, these results indicate that metropolitan areas with diverse schools and neighborhoods are better positioned, on average, to (1) supply jobs for educated workers, and (2) produce an educated labor force that can fill those jobs.

Moderating Effects of Meso-Level Diversity

Because macro-level diversity overall is negatively associated with attitudinal dimensions of social cohesion, an analysis of meso-level diversity as a moderator was undertaken in order to test the hypothesis that the negative effects of macro-diversity are reduced under more positive meso-level diversity conditions. It was also expected that any positive effects of macro-diversity would be stronger under conditions of higher meso-level diversity. Analyses yielded results that were in line with these predictions, with the exception of racial trust.

For racial bridging ties, the *positive* impact of macro-level diversity is considerably greater in communities with greater diversity in their schools and neighborhoods. While we cannot make any specific conclusions as to what happens *within* diverse schools or neighborhoods, these results offer potential evidence of the benefit of more supportive institutional contexts, in which people of diverse

backgrounds are able to interact and form important bridging connections (Briggs 2003; Laurence 2011).

The moderating impact of meso-diversity on economic outcomes shows that macro-diversity, without controlling for other factors, has a greater *positive* effect on per capita GDP among *low* meso-diversity communities. However, once statistical controls are introduced, results indicate a greater positive effect of macro-diversity among communities with high meso-diversity, compared to communities with low meso-diversity. With regard to skill segregation we find that under conditions of high meso-diversity, macro-diversity has weaker impact on the skill gap, which is potential evidence of how institutions structure occupational opportunities. Communities that have higher meso-level diversity, or more integrated schools and neighborhoods, are more likely to have a more equitable distribution of high- and low-skilled labor opportunities, which is linked to greater metropolitan economic prosperity (Li et al. 2013).

Moderating Effects of Economic Inequality

Previous work has found that community social cohesion varies with the relative socioeconomic status of the community (Letki 2008; Phan 2008; Laurence 2011; Gisjbert et al. 2012; Krivo et al. 2013). Low community socioeconomic status can affect interactions between neighbors, intensifying prejudice and competition (Marschall and Stolle 2004; Oliver and Mendelberg 2000; Sampson, Raudenbush, and Earls 1997). Using a Gini index of income inequality as a proxy for economic inequality, results of this study show that under more equitable economic conditions, the negative effect of macro-diversity on trust is potentially compensated for by the *positive* impact of neighborhood diversity. Neighborhood diversity also exerts an even stronger positive

effect on racial trust among communities with greater economic equality, but the statistical significance disappears once regional effects are controlled. Though not as strong in magnitude, the positive impact of school diversity on racial trust also counterweighs the negative effect of macro-level diversity among communities with greater economic equality. These results offer support for the ameliorative impact of economic equality on individuals' attitudes towards other race/ethnic groups shown in previous work (Letki 2008; Phan 2008; Laurence 2011; Gisjbert et al. 2012; Krivo et al. 2013), but also this study reveals that the benefits of school and neighborhood diversity are strengthened under more positive economic conditions.

Racial trust

For racial trust, the meso-level diversity moderation results revealed that the negative effect of macro-level diversity was in fact *stronger* for communities with higher levels of meso-diversity, suggesting that high macro- *and* meso-diversity lower racial trust. When analyzing the full sample, meso-level diversity increases racial trust, net of macro-level diversity. It is unclear why racial trust seems to operate differently in the full sample mediation analyses, compared to the sub-sample moderation analyses. Since previous mediation analyses suggested that across all communities in the sample, meso-diversity, net of other factors, increases racial trust, it is possible that the different findings regarding racial trust for the split sample can be partly attributed to small sample limitations. These results may also support previous critiques on the role of trust as a dimension of social cohesion. In their analyses of trust as a viable component of social capital, Knudsend, Florida, and Rousseau (2005) found through factor analysis that trust

was not a significant dimension of either bridging or bonding social capital. However, those authors did not assess particularized *racial* trust.

The persistent negative relationship between macro diversity and trust in the mediation analyses may also reflect the embeddedness of a dominant racial ideology in U.S. society. In a society where racism, ethnocentrism, and racialized power relations are systemic (Feagin 2006; Bonilla-Silva 2001; Omi and Winant 19940 people, particularly those of a privileged social status, are socialized into a dominant narrative about group differences, which could likely take the form of a stereotypical notion of members of other race/ethnic groups as less trustworthy. *Not* trusting out-groups in general reflects an internalized bias or stereotypical view of other groups. The results of this study suggest that despite any individual's behaviors in regard to group involvement or friendship choices, a dominant racialized ideology continues to be reproduced in people's general assessments of out-groups. With that in mind, then, the results of this study in regard to the impact of meso-level diversity on racial trust for the full sample of communities suggests that school and neighborhood desegregation could potentially work to dismantle these biases.

A lack of racial trust among a diverse citizenry also potentially indicates a degree of social distance between racial/ethnic groups (Mistzal 1996). In order to explore these patterns further, an additional social psychological variable was examined: attitudes towards interracial marriage. Attitudes towards interracial marriage is a well-established indicator in the social sciences to measure social distance between groups, and has been framed as evidence of individuals breaking racial barriers (Qian 1997). The results of the present study show that diversity, at the macro- and meso-levels, increases aggregate

levels of support for interracial marriage, net of other factors. While based on these analyses we cannot determine how diversity impacts actual rates of interracial marriage, previous studies have shown that interracial marriage depends on the opportunity for social contact, which in turn depends also on the relative size of each group (Blau 1977). As racial/ethnic diversity in communities increases, so does the relative size of other race/ethnic groups relative to Whites, which makes social contact between minority and majority groups more likely, particularly if social institutions are not racially isolated and offer the opportunity for intergroup contact. Insofar as meso-level diversity is a reasonable measure of intergroup contact, the current findings indicate that meso-level diversity decreases social distance and improves intergroup attitudes among residents of metropolitan communities.

Additionally, with regard to sense of neighborhood belonging and community attachment, two attitudinal dimensions of social cohesion, the moderating analyses show that macro-diversity has significant *positive* effects in communities with high diversity in schools and neighborhoods. Similarly, Wu, Hou, and Schimmele (2011) also found that at the national level, diversity enhances sense of belonging and this sentiment decreases as neighborhoods become more ethnically homogenous. The positive impact of diversity on sense of belonging in communities with greater neighborhood and school diversity suggests that meso-level diversity may encourage more inclusive identities, which are reflected in residents' attachment to others and to their community. Overall, the moderation analyses are not only consistent with the mediating effects of meso-diversity on social and economic outcomes, but also reveal that in communities with high meso

diversity *and* greater economic equality, both social cohesion and economic productivity and well-being are enhanced.

Collectively, these findings stand in stark contrast to previous statements about the how diversity creates barriers between people, causing them to trust others less, which culminate in an argument *against* diversity, which, particularly in the United States, could serve to increase separation between race/ethnic groups in schools and neighborhoods, reversing decades of progress towards racial and ethnic equity since the Civil Rights Movement. Putnam (2000, 2007) and others have argued extensively about how race/ethnic diversity in society leads people to disengage in their community because they are less likely to trust each other. The present study shows, however, that regardless of any predetermined attitude towards other groups, such as how people respond to survey items designed to elicit individuals' feelings of outgroup trust, macro- and meso-level diversity actually serve to *increase racial and ethnic intergroup contact*. In other words, the negative impact of diversity on racial and social trust, main attitudinal dimensions of social cohesion, *only holds at the attitudinal level*. The observation that macro-level diversity decreases interracial trust in communities offers limited support for the racial threat hypothesis, which postulates that as minority group presence increases, majority group members *perceive* minority members as a threat to their socioeconomic privilege (Blalock 1967; Levine and Campbell 1972). Nevertheless, the results of this study suggest that despite negative associations between metropolitan diversity and interracial trust, we find little impact on *actual behaviors,* which, arguably, are more important dimensions of social cohesion. While the negative impact of race/ethnic diversity on prejudiced attitudes may reflect a dominant racial ideology, the findings of

this study suggests that despite this, diversity increases social cohesion at the behavioral level, which carries greater weight than individuals' *perceptions* of outgroups; these perceptions, as this study shows, have no significant negative impact on individuals' actual behaviors. How important is "trust," then, as a barometer to gauge race/ethnic relations in U.S. society? The results of this study show that while diversity exerts a significant impact on trust towards other race/ethnic groups, levels of trust have no significant bearing on the diversity of individuals' group involvement, nor the race/ethnicity of their personal friendships. As a metropolitan level analysis, this study cannot make any substantive conclusions regarding individual level behaviors, as any potential variation in an individual's specific attitudes are obscured by aggregating individuals' responses up to the metropolitan area level. However, it is *on average,* across individuals within metropolitan areas, that we see such compelling findings for the impact of diversity on social cohesion. Regardless of what any specific person may feel or behave towards diverse race/ethnic groups, this study shows that on average, diversity *positively* affects the extent to which we, as a society, are likely and willing to have racial bridging ties.

Study Limitations

The principal limitation of the present study is the sample size. Multivariate analysis with a sample of only 29 communities is limited with regard to statistical power, degrees of freedom, and variability. Nevertheless, the rigor of the data from which this study's dataset was constructed still allowed for a rich analysis of metropolitan-level indicators, and findings yielded from the analysis were compelling, and consistent with past research. Perhaps the portion of the analysis most affected by sample size was the

moderation analyses predicting racial trust, which divided the sample into high and low meso-diversity groups, and yielded some unexpected results. However, previous analyses in this study of racial trust for the full sample produced results in line with predictions from past research and theory, thus, the unanticipated findings for racial trust in the meso-level diversity moderation analyses are of limited significance.

Multicollinearity was a problem when analyzing the relationship between macro-diversity and per capita GDP. In these models, the correlation between macro-level diversity and population size was so large as to warrant the exclusion of population size for those analyses. Issues of model fit when including regional indicators were also a concern in models predicting per capita GDP, and thus region was excluded. The number of variables included in models affects the degrees of freedom, which in this study limited the number of predictors examined due to the small sample size. For each analysis in this study, model fit was explored meticulously, and only models that made sense theoretically and demonstrated an acceptable degree of model fit are presented and discussed. Additionally, multicollinearity between school and neighborhood diversity precluded an analysis of these two measures in the same statistical model, which represents another limitation of this study. School and neighborhood diversity were analyzed separately, yet it is still not possible with OLS regression techniques to disentangle the effects of school and neighborhood diversity, since schools are nested within neighborhoods, which are in turn nested within metropolitan areas. Analyzing the impact of meso-level diversity in social institutions at the metropolitan level cannot be absolved from issues of multicollinearity without taking the steps necessary to account for spatial clustering, which can be accomplished by the use of multilevel modeling

techniques. While the present study's results are compelling and valuable, this study's findings could be strengthened in future research utilizing multilevel modeling, in order to better understand how the effects for school and neighborhood diversity may be related to each other. Additionally, the use of aggregate level data in this study potentially obscures individual-level variations in the social cohesion variables. The multicollinearity between these two measures makes it relatively easy to assume that they operate similarly, at least on the aggregate level. But, educational organizations, such as K-12 schools, are not directly comparable to the more fluid, often transient nature of neighborhoods.

Future research could also benefit from examining the relationship between diversity and social cohesion at two different time points. Data limitations precluded a longitudinal analysis of social cohesion, since the SCCBS is, to my knowledge, the only nationally representative data source with (1) sufficient respondents for each metropolitan area included, and (2) interracial social cohesion indicators (interracial trust and bridging ties). The findings of this study and those in previous research have demonstrated that trust is a likely consequence of bridging ties, serves to solidify social connections, and is generally viewed as a symptom of cohesive groups (Marschall and Stolle 2004; Uslaner 2012). Yet, since these analyses yielded relatively inconsistent results for racial trust, future research could benefit from evaluating whether trust is valid and reliable indicator of social cohesion, and clarifying what the construct means in and of itself.

Another study limitation involves the use of census tracts as proxies for neighborhoods. As mentioned previously, census tracts are designated to "best represent" neighborhoods, and are the most common spatial unit used in segregation

research. But, it is clear that they are rather arbitrarily defined and may not represent what an actual resident may consider their neighborhood or community. Future research could explore different ways of measuring neighborhoods, such as census block groups, which are also used extensively in the social sciences. Additionally, given the limited sample size, I could not incorporate as many statistical control variables as may have been theoretically relevant. Outgroup attitudes and behaviors, for example, are linked to many other demographic variables, such as education, age, nativity, and political ideology, however, the inclusion of other variables were outside of the immediate focus this paper, and sample size could not allow for the inclusion of every potential correlate. Future research should examine how social cohesion and economic well-being, at the aggregate level, could be impacted by these variables.

Implications

As U.S. race/ethnic diversity continues to grow, it is important to consistently monitor how we, as a society, ensure that people, regardless of background, are able to equitably participate in society and the economy in their pursuit of individual goals, such as occupational and educational attainment. Previous research has shown that socioeconomic advancement is greatly determined by the available *opportunity* to do so, and the equality of those opportunities is threatened by the persistence of racial/ethnic separation and isolation across social institutions. Previous research has provided extensive evidence on the short- and long-term effects of race/ethnic diversity in schools and neighborhoods and other social settings on individual outcomes, and more recent research has begun to examine the impact of macro-level race/ethnic diversity on social and economic factors, and particularly how meso-level diversity remains an under-

examined yet important factor that shapes social and economic outcomes. The findings of this study make a contribution to the literature in this area by analyzing the impact of diversity at the metropolitan level. Furthermore, while the existing literature on institutional diversity has yielded mixed results, this study's findings show consistent *positive* effects of school and neighborhood diversity on the social and economic well-being of communities. Overall, greater diversity in schools and neighborhoods is associated with higher levels of social cohesion, economic productivity, and economic well-being across a sample of U.S. communities. Thus, implementing policies to enhance, rather than impede race/ethnic diversity in schools and neighborhoods should become a national priority.

Utilizing the talents of all members of a diverse society requires the *inclusion* of all would-be members in our social institutions (Herring 2009; Mickelson and Nkomo 2012). Efforts to include all members of society regardless of racial/ethnic background in a prosperous economy require that the opportunity to participate in the social institutions necessary to meet those goals is equitable. What this study shows, ultimately, that it is not only a vibrant, diverse community that leads to better social and economic outcomes, but it is through a combination of diversity *plus economic equality* that we may reap greatest social and economic enrichment across U.S. metropolitan areas.

Social science research on race/ethnic diversity in society has played a pivotal role in the creation and implementation of social policy, particularly in education. To that end, one of the most influential pieces of legislation for racial/ethnic equality, the *Brown v. Board of Education* (1954), targeted what many consider the ideal of the American school: its role as the avenue for upward social mobility and the path towards

social cohesion in a democratic society. In recent years, however, we see policies on diversity and equity in education veering away from a focus on equality of opportunity, to more individualistic agendas such as accountability and student competitiveness (Noblit and Mendez 2008), as well as a prevailing concern with the individual over the collective (Meyer 2001). Some scholars have condemned these types of reforms as misguided, potentially obscuring the structural roots of race/ethnic inequality (Meyer 2001; Bell 2003). The findings of this study point to the importance of expanding discussions surrounding diversity and equity in social institutions to include a greater focus on the collective or societal benefits of institutional diversity, not simply focusing on potential harms of race/ethnic isolation to individual freedoms. To accomplish this requires local capacity and will, and potentially an ideological shift from valuing individualism above and beyond the collective, to the collective good as beneficial to the individual (Bell 1979; McLaughlin 1987).

It is likely that growing race/ethnic diversity will continue to be both embraced as part of the multiethnic history and present of the United States, yet also challenged in regard to what it means for the privileged who benefit from persistent structural inequities in education, housing, and the labor market. Future research should continue to explore how institutional diversity shapes important societal (as well as individual) outcomes, since it is certain that the race/ethnic diversity of the U.S. population will grow, and where people go to school, live, and work will continue to shape the social and economic well-being of our society.

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APPENDIX

Table A: List of Variables, Data Sources, and Measurement Details

Variable	*Data Source*	*Year(s)*
Social Cohesion (all dimensions)	Social Capital Community Benchmark Survey (SCCBS)	2000
Per capita GDP	Bureau of Education Analysis (www.bea.gov)	2010
Region	U.S. Census SF 100% data	1990, 2000, 2010
(ln) Population Density	U.S. Census SF 100% data	1997
Skill segregation	U.S. Census SF 100% data	2000, 2010
School Desegregation	US Schools (http://www.s4.brown.edu/usschools2/index.html)	1990, 2000
Residential Desegregation	American Communities Project	1990, 2000
Post-secondary Desegregation	Integrated Postsecondary Education Data System (IPEDS; http://nces.ed.gov/ipeds/)	1999
Gini Index of Economic Inequality	GeoDa Center for Geospatial Analysis and Computation (https://geodacenter.asu.edu)	1990
Education Gap Index	Metropolitan Policy Program, Brookings Institution (www.brookings.edu/metro)	2010-2012

Table B: Details on Geography of Social Capital Community Benchmark Survey

SCCBS Community Sponsor	*SCCBS Geographic Area*	*U.S. Census Equivalent*
Arizona Community Foundation (C.F.)	Maricopa County, AZ	Phoenix-Mesa, AZ MSA
C.F. for Greater Atlanta	Counties of: DeKalb, Fulton, Cobb, Rockdale	Atlanta, GA MSA
Forum 35/Baton Rouge Area Foundation	East Baton Rouge Parish	Baton Rouge, LA MSA
C.F. of Greater Birmingham (AL)	Jefferson and Shelby Counties	Birmingham, AL MSA
Boston Foundation (MA)	City of Boston	Boston, MA (city) (Skill Segregation: Suffolk County)
C.F. Serving Boulder County	Boulder County	Boulder-Longmont, CO MSA
Foundation for the Carolinas	Counties in NC: Cabarrus, Catawba, Cleveland, Gaston, Iredell, Rowan, Stanly, Union; SC: Chester, Lancaster, York	Charlotte-Gastonia-Rock Hill NC-SC MSA
Central New York C.F.	Onondaga County	Syracuse, NY MSA
Chicago Community Trust	Counties: Lake, McHenry, Cook, DuPage, Kane and Will	Chicago, IL MSA
Greater Cincinnati Foundation	Counties: OH: Butler, Clermont, Hamilton, Warren; KY: Boone, Campbell, Kenton; IN: Dearborn	Cincinnati-Middletown, OH-KY-IN MSA

Cleveland Foundation	Cuyahoga County	Cleveland-Elyria-Mentor, OH MSA
Denver Foundation/Rose C.F./Piton Foundation	City and county of Denver	Denver-Aurora-Broomfield, CO MSA
East Tennessee Foundation	Counties: Anderson, Blount, Campbell, Claiborne, Cocke, Grainger, Greene, Hamblen, Hawkins, Hancock, Jefferson, Knox, Loudon, Monroe, McMinn, Morgan, Roane, Scott, Sevier, Union, Unicoi, and Washington.	Knoxville, TN MSA
Grand Rapids C.F.	City of Grand Rapids	Grand Rapids, MI (city) (Skill Segregation: Kent County)
Greater Houston C.F.	Harris County	Houston-Sugar Land-Baytown, TX MSA
Greater Kanawha Valley Foundation	Counties: Kanawha, Putnam, Boone	Charleston, WV MSA
Kalamazoo C.F.	Kalamazoo County (MI)	Kalamazoo-Portage, MI MSA
California C.F.	Los Angeles County	Los Angeles-Long Beach-Santa Ana, CA MSA
Maine C.F.	Cities/Towns: Lewiston, Auburn, Greene, Sabattus, Lisbon, Mechanic Falls, Poland, Turner, Wales, Minot	Lewiston-Auburn, ME MSA
Rochester Area C.F.	Counties: Monroe, Wayne, Ontario, Livingston, Genesee, Orleans	Rochester, NY MSA
The St. Paul Foundation	Counties: Dakota, Ramsey, Washington, Hennepin	Minneapolis-St. Paul-Bloomington, MN-WI MSA
The San Diego Foundation	San Diego County	San Diego-Carlsbad-San Marcos, CA MSA
Walter and Elise Haas Fund	City and County of San Francisco	San Francisco-Oakland-Fremont, CA MSA
C.F. for Southeastern Michigan	Counties: Wayne, Oakland, Macomb, St. Clair, Washtenaw, Monroe, Livingston	Detroit-Livonia-Dearborn, MI MSA
Winston-Salem Foundation; C.F. of Greater Greensboro	Forsyth, Greensboro, Guilford Counties, NC	Greensboro-High Point-Winston-Salem, NC MSA
York Foundation (PA)	York County	York-Hanover, PA MSA
Northwest Area Foundation		
Seattle	City of Seattle	Seattle (city), WA
Yakima	Yakima County, WA	Yakima, WA MSA
Bismarck	City of Bismarck, ND	Bismarck, ND (city) (Skill Segregation: Burleigh County)